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THE JOURNAL OF THE ROYAL INSTITUTE OF BRITISH ARCHITECTS

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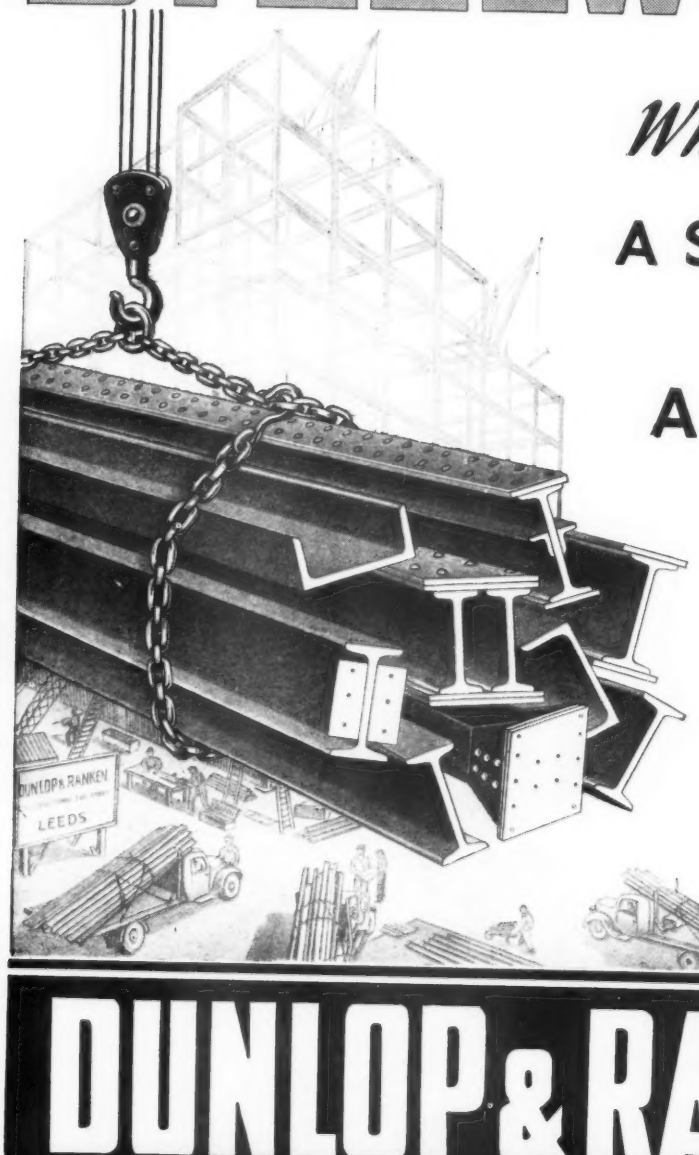

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The Annual Reception

This year's Annual Reception was more of a 'family affair' than in recent years in that members attended in proportionally greater numbers than guests. In view of the very large number of people who attended it was fortunate that practically the whole building had been opened as otherwise there might have been crowding in the public rooms. The exhibition in the Library and the puppet show in the Foyer drew large attendances, so that the dance floor was never unduly crowded. It was noticeable also that many members preferred to greet old friends and chat with them at the long refreshment buffets in the Members' Room and on the upper landing rather than patronize the entertainments. The exterior of the building was floodlit for the first time since V-J Day.

The Exhibition that was staged in the Library had for its subject 'Architectural Studies Abroad'. It consisted of outstandingly good water-colours and drawings by architects and painters, from the Institute's own very fine and valuable collection, which illustrated buildings of note. Many of these drawings are little known, and some had not been on public exhibition before. The Library itself was also on view, and the Library staff were kept busy producing rare and unusual books for members to look at, such as Humphry Repton's book of water-colour drawings of the Brighton Pavilion and its surroundings.

Among the guests received by the President and Mrs. Waterhouse were the Minister of Education, the Right Hon. George Tomlinson, M.P., members of the Diplomatic Corps, senior officers of ministries and the presidents and secretaries of learned societies and bodies which are associated with the Royal Institute. Helping to make the occasion a 'family affair' were very many Hon. Fellows and Hon. Associates, to whom the Annual Reception is the principal occasion in the year when they visit the Institute of which they are distinguished members. London local government was also well represented by the Chairman, Deputy Chairman, Leader and Clerk of the London County Council, and the Mayor and Town Clerk of St. Marylebone.

Howard Robertson elected A.R.A.

Mr. Howard Robertson, M.C., S.A.D.G. [*F*], Royal Gold Medallist (1949) has been elected an Associate of the Royal Academy.

South Bank Concert Hall

At a recent Press conference, the designs for the new concert hall group by Mr. Robert H. Matthew [*A*], Architect to the London County Council, and his staff, were on view to the Press. The scheme consists of a large concert hall with accommodation for 3,450, a smaller hall for chamber music, theatricals, etc., a large reception foyer for receptions, dinners and dances, restaurants for the public opening on to the terrace and new garden created by the river wall, a two-storeyed exhibition gallery for art displays, and two large meeting rooms. These have been very well arranged in a single block on what is a rather restricted site. The acoustic treatment and sound insulation are to take advantage of the recent advances in research made in this country. The hall, which is perhaps Britain's first post-war non-austerity public building, has started well towards being a notable addition to London's public buildings.

Egyptian Visitor to the R.I.B.A.

Among its recent foreign visitors the Royal Institute has welcomed Hassan Fathy Bey, Chief Architect of the Egyptian Ministry of Education. He has been specially interested in village life, and during his visit toured the West of England. Among his own projects is the recent rebuilding of a village near Luxor to house a displaced community. This scheme, of which we hope to give an account in a later JOURNAL, is particularly notable for two things. All dwellings have been specially designed for the families that were to be rehoused—a reversal of our procedure of building houses and then fitting families to them and one which he found unexpectedly easy to carry out and far more 'human'. Secondly, in construction he has successfully revived the ancient mud brick barrel vaulting and saucer dome, built without centering, a form which he has found to be both cheap and easy to build and specially suited to the Egyptian climate. Both the planning of the village and its construction have much to teach us on the technique of building for life in hot climates.

Nuffield College, Oxford

On 21 April the City of Oxford celebrated with a procession and a simple ceremony the laying of the foundation stone of Nuffield College by the Earl of Halifax, Chancellor of the University.

Founded by Lord Nuffield in 1937, the college has existed for twelve years in makeshift accommodation. The architect of the new college is Mr. A. St. B. Harrison [*F*], of Harrison, Barnes and Hubbard, and the building is to have an exterior of Clipsham stone.

Reconstruction in West Ham

Mr. Thomas E. North [*F*], Borough Architect of West Ham, one of the worst 'blitzed' areas of England, showed Press and education representatives on 4 May a film entitled 'NU.15', which is documentary, lasting 45 minutes, supported by excellent dialogue, showing the progress of reconstruction in the Tidal Basin of London's dockland.

The war totally destroyed a quarter of West Ham's houses, every one of its seventy-one schools was damaged and seventeen destroyed (the Luftwaffe made the borough the receiving end of 360,000 bombs of all types, from 'butterfly' to V.2). Town planning and reconstruction is therefore a tremendous task, but is being vigorously tackled by the Architect's Department.

The pre-war population was 270,000, and the redevelopment scheme is based on an optimum population of 165,000 (100 to the acre): about 10,000 people will go to Basildon New Town. It is intended to build, or re-build, sixteen neighbourhood units, each with an average population of 10,000, away from factory and industrial units which will have their own L-shaped zone along the Lea Valley and in the south of the borough between the docks and the Thames.

Mr. North took his visitors round Neighbourhood Unit 15, known as Tidal Basin. Early in the war two-thirds of the area was totally destroyed and Commando units used what was left as a battle-training school. Now it is rapidly taking shape as a 'garden city' with pleasant terraces or 3-storey blocks of flats round open squares. This and the other fifteen neighbourhood units are to be self-contained and bounded by main roads and railways. N.U.15 will have six schools, and only children over eleven will have to go outside the neighbourhood unit; even then crossing of busy roads will be obviated; all this incorporates the recommendations of the Abercrombie Plan.

The film depicts West Ham in the days before planning, takes the audience through its inter-war years 'growing pains' and shows the progress of reconstruction in the Tidal Basin since the end of hostilities. The Borough Architect has shown it to several audiences, including his present and prospective municipal clients who will occupy the neighbourhood units, and they have displayed the keenest interest in their borough's future and, indeed, its domestic architecture. This is an area of Greater London, where the community spirit is inherently strong (lessons on community development are given in the schools) and an audience recently kept the architect and his assistants until midnight discussing the film and its implications.

International Architectural Student Conference

Sponsored by the Architectural Students' Association, and postponed from last January, the International Architectural Student Conference opened on 24 April at the London University Hut behind Senate House. It ended on 27 April with a dance at the A.A. Over 60 delegates attended, from as far away as Lebanon, China and Greece, and talks were given on 'Student Housing and Welfare' by the Danish delegate, 'Architectural Students in the Colonies', 'Town Planning for the People', 'Architectural Education in Sweden'; an English student gave a talk on 'The Student's Part in His Own Education'.

Mr. R. Furneaux Jordan [*F*], recently appointed principal of the A.A. School, spoke on 'Tasks of the Architect in the World Today'. In conjunction with the conference, an exhibition of work by architectural students was held at the Regent Polytechnic School of Architecture.

Enthusiasm went hand in hand with a healthy realization that architectural education benefits enormously by the periodic international pooling of ideas and discussions, but there was a certain laxity about the organization of the conference, definition of purpose and the itinerary itself which left much to be desired.

British Architects' Conference

Members intending to attend the Conference at Nottingham are asked to return their application forms at once, on receipt of this JOURNAL. The last day in any case on which applications can be accepted is 4 June.

Questions and Answers in Practice.

Members are asked to submit questions which they would like answered, in writing to the Secretary, some days before the general meeting on 21 June when Mr. Charles Woodward [*A*] and Mr. Sydney Redfern, LL.B., the Institute's solicitor, will speak on *Questions and Answers in Practice*.

Codes of Practice

The Ministry of Works announce that the Codes of Practice Committee for Civil Engineering, Public Works, Building and Construction Work has been re-named the Council for Codes of Practice for Buildings, Construction and Engineering Services.

Furniture Design Conference

The Council of Industrial Design is to hold a Conference on Furniture Design at the R.I.B.A. from 18 to 22 July. The papers will be given by representative experts on scientific, social and economic aspects, the architectural setting, materials and machine methods, etc. The Conference will be similar in form and scope to the recent one on Colour and Lighting in Factories and on Machines, organized jointly by the Council of Industrial Design and the British Colour Council. The Conference is free, but formal enrolment is necessary. Those interested should write, indicating their professional interest, to the Council of Industrial Design, Tilbury House, Petty France, London, S.W.1, marking their letters 'Furniture Design Conference'.

British Pre-fab. School flown to Paris

Four 'Bristol' freighters recently flew a complete two-classroom school from Weston-super-Mare to Paris. Within a week of the first aircraft's departure from Weston the school had been erected in the Avenue Victor Hugo. The school, the same type as Britain's first aluminium prefabricated school recently opened at Lockleaze, Bristol, was placed on exhibition in Paris by the Societé Nationale de Constructions Aeronautiques du Sud-Est, an organization which plans to rouse the interest of education authorities throughout France in 'Bristol' prefabricated schools.

Ministry of Education Development Group

The Ministry of Education has announced the formation of a Development Group within the Architects Branch of the Ministry. The members are Mr. A. Pott, A.A.Dipl. [*A*], Mr. D. L. Medd, A.A.Dipl. [*A*], Miss Mary Crowley, A.A.Dipl. [*A*], and Mr. J. P. Price, A.A.Dipl. [*A*].

The essential feature of this new organization is that building schemes will be discussed informally in their earliest stages instead of the old method when the various branches of the Ministry considered schemes formally after they had reached a fairly advanced stage.

Professor A. E. Richardson says 'Architecture is a masculine art'

Speaking recently at the annual dinner of the Bedfordshire Branch of the Northants, Beds and Hunts Association of Architects held at Luton, Professor A. E. Richardson, R.A., M.A., F.S.A. [*F*], Royal Gold Medallist (1947), dealing with education, said it began in primitive times with craftsmanship; later came architecture, then came education. Today it was the reverse—education, architecture, craftsmanship. That must be reversed once again. How could it be done? Not by making more architects, not by bringing more women into the profession (because architecture was a masculine art). He then outlined a suggestion for bringing young men technicians into the profession up through the ranks of building trade assistants.

Above: the President and Mrs. Waterhouse with Mr. R. E. Enthoven [*F*], President of the Architectural Association

At the Annual Reception

Left: the President and Mrs. Waterhouse receiving Sir Lancelot Keay and Lady Keay

Above: members and guests in the Henry Florence Hall

Left above: the Minister of Education, the Rt. Hon. George Tomlinson, M.P., and Mrs. Tomlinson

Left below: Mr. C. H. Aslin, Vice-President R.I.B.A., Mrs. Aslin and Miss Aslin

School Building Programme

The Minister of Education, Mr. George Tomlinson, speaking recently at Plymouth, said that since the end of 1945 the total amount of educational building work completed was more than 35 million pounds in value, and at this moment there was at least another 35 million pounds of work under construction. He indicated, however, that this was small compared with the amounts which would have to be spent to provide extra school places at new housing estates, to accommodate the increased numbers due to the unexpectedly high birth rate, to overtake the arrears of the war years, to replace sub-standard buildings, and, finally, to face the demands of the Education Act for higher standards all round.

R.I.B.A. Diary

TUESDAY 24 MAY 6 P.M. Special General Meeting. *The Economics of Building Operations and the Architect*. Professor Ian Bowen.
TUESDAY 21 JUNE 6 P.M. Council Election Results. *Questions and Answers in Practice*. Charles Woodward [*A*] and Sydney Redfern, LL.B.

Presentation of the Royal Gold Medal for 1949 to Howard Robertson, M.C., S.A.D.G. [*F*]

At the R.I.B.A. 5 April 1949

The President in the Chair

The President: There is a galaxy of oratory to follow. I shall therefore be very brief, but I must say what a privilege it is to me and an honour to this Institute that I should be standing to present, on behalf of the King our Patron, this gold medal. Above all, it is a pleasure to me to bestow it on one who is my personal friend, and particularly a person whose attributes and character I so much admire

You know from what I have said before from this Chair what are my opinions—I might say my ideals—as to the quality, the training, the background, the character, the essential ingredients of anyone who aspires to be a really worthy member of our profession. You may remember my views on the need of impressionability, wide-mindedness, knowledge—that not merely an academic knowledge but rather a knowledge on broad foundations, a knowledge which is a fruitful root for growth and from which the growth can be vigorous, new and fresh. That kind of knowledge needs, I feel, a background of tradition. In the case of our Gold Medallist, that background was provided largely by the *Ecole des Beaux Arts*, of which the result is—as he himself has said—the appreciation of ordered form and related mass, a knowledge, of proportion and scale so wide, so ingrained, that it is an intuition guiding all the processes of thought and of expression.

When you come to think of it, to the architect the power of expression is really the main feature, the main factor, of his life. In fact, it is the justification for his very existence. To my mind in the architect—the ideal architect—that power of expression should not be confined alone to his buildings. He should be able to talk, to write, to teach, to inspire, if he is to give his best to the world. I know that that opinion of the ideal architect is shared by Howard Robertson. He, too, will agree with me that the ideal architect should have this ability to do all these things supremely well and—withal (unlike some) with extreme modesty.

It only remains for me to say, with my knowledge of and my friendship for our Gold Medallist, that it is only this last quality—his own modesty—which would prevent him from sharing my conviction that by what he himself has done in these fields, in addition to the visible expression by his buildings, he has proved himself an ideal recipient of this our most prized and most honoured reward.

I will now call upon Mr. R. E. Enthoven, President of the Architectural Association, to speak on the work of Mr. Howard Robertson.

Mr. R. E. Enthoven [*F*]: It is a great privilege to be invited to pay tribute to the Royal Gold Medallist of the year; for me it is a particular pleasure to be allowed to do so to Mr. Howard Robertson, for to him I owe my own architectural education and incidentally my first, lightly-earned, pound note.

At the last General Meeting, held in this hall, Mr. Goodhart-Rendel focused attention upon 'Rogue Architects': those who stray from the common herd to solve their problems in a way which, no matter how much it interests later historians, has no æsthetic influence either on their own or on succeeding generations. I mention this because in Howard Robertson, it seems to me, we have the very opposite—an 'inverted rogue' as it were—for his influence in his generation has been outstanding and widespread. I do not refer merely to the example of his executed buildings, although as we all know, his Horticultural Hall, his Foreign Legion of exhibition pavilions, and other works of note have had their share of 'natural' progeny. The debt, however, that we owe Howard Robertson covers a far wider field than this. My task tonight is to speak not of the individual buildings but of the mind behind them.

According to records his pebble was first thrown into the architectural pond in 1905, when the late Mr. Phene Spiers strongly advised him to discard the idea of being an architect as hopeless. Stung by this, he retaliated by going from success to success, to the embarrassment of that architect, who must surely be turning uneasily in his grave tonight.

In 1920 the Architectural Association, which I have the honour to represent tonight, appointed him Principal of the A.A. School, and for the next fifteen years he made a great mark upon architectural education in this country. During those bitter-sweet years of æsthetic turmoil, he was a guiding force, largely due to his ability to keep the right things in focus and to think in at least three dimensions; to keep his feet well on the ground, and his eyes in the front of his head. Realizing that teaching and practice are to a certain point interdependent, he succeeded in resolving with vigour that most difficult of all dualities, school direction and private office. In the school it was his aim to teach principles, and after that to urge students to find things out for themselves; in his books, articles and lectures on architecture and composition he was able to explain these principles to an ever-widening circle, to increase architectural understanding.

In architectural practice, which he regards as a service to the public, he has readily undertaken jobs of all kinds, public and private, large and small, permanent and temporary, whether likely to bring great public credit or not. Although the balance may yet be corrected, an unkind fate has decreed that, while so clearly fitted to design in an age of amplitude, using first-class materials which will grow old gracefully, he should by force of circumstances give much of his energies to work that is impermanent or severely restricted by cost. As Keats complained, it is hard to have an intellect in splints.

Yet this has in no way curbed his imagination: during the recent war he devoted much thought to designing the original standard industrial type hostels used by the Ministry of Works. For these he also prepared typical schemes of interior decoration, which contributed so much to the success of the buildings. He has always maintained that architectural decoration is an important part of architecture, the final flowering of the architectural conception, bringing architecture into the layman's orbit. As a result his work appeals alike to architects and the man-in-the-street as something warm and friendly, not as a cold test of intellectual appreciation.

Mr. Howard Robertson being congratulated on receiving the Royal Gold Medal by the President, R.I.B.A., Mr. Michael T. Waterhouse, M.C.

In architectural design, he has shown himself preoccupied by the challenge of the problem in hand, unconcerned with the thought of achieving successful expression in any particular school of design, for he holds that there cannot be any standard expression for buildings of different types and under varying conditions.

In his sympathies he is with the individual in design, believing that the architect should keep his conscience clear, fighting to the bitter end against encroachments on his liberty to design and give expression to his solution as he feels right; that he should study movements but not be enslaved by them. These things he has shown by word and deed.

I have yet to mention the notable work he has also done as British representative in the field of international juries and commissions. He was technical adviser to the Secretary-General in connection with the completion of the League of Nations Building at Geneva; he was also a member of the jury that assessed the international competition for the Parliament Buildings in Ankara; more recently he was selected to be British representative on the International Board of Design for the United Nations Headquarters in New York. No other personality could have been so appropriate.

I remember being present on the occasion when his firm received the R.I.B.A. bronze medal for the best building of the year. Howard Robertson then described himself as the 'tail of the comet'. With great respect I suggest that this was a misleading description in that a comet of all bodies is one that cannot ever be wagged by its tail. No, Sir, you are a comet in your own right, that is why we have come to honour you this evening.

The President: I call upon Mr. J. Murray Easton to speak.

Mr. J. Murray Easton [*F*]: I first met Howard Robertson in 1913 and we have been partners for thirty years, so I am very glad to be able to offer my little bunch of flowers.

First of all, Howard Robertson is a very kind person. I do not think he can help it, so perhaps it is not very much to his credit. The number of people who count him as friend is past belief. Our window-cleaner said rather bitterly that we had so many clients we should never starve. Even apart from Messrs. Strachey and Peron he was wrong. The dark or blond gentlemen who are constantly to be found in our waiting-room are not clients, but visitors from Indonesia or Scandinavia or any part of the habitable globe. They all want to see Mr. Howard Robertson, to tell him their story and to get advice and encouragement. And they never fail to. Even his partners get a kind word. Souvenirs of these visits occasionally arrive—sometimes looking like objects escaped from 40,000 *years of modern art*, sometimes like food parcels.

As a colleague, H. R. is a very acute and helpful critic and makes people believe they have got something that can be made even better—not something hopeless. This quick judgment saves a lot of time. I often feel sorry for those lone wolves who have no one to tell them in a nice way that they are right off the mark. They may or may not recognize it before it is too late—generally not.

In his own work Howard Robertson has never been quite orthodox. In the early 20's a school of architects discovered that if you used sash windows with panes proportioned on the square of the diagonal you would never go far wrong, and you might even go far. H.R. was as quick on the draw as anyone with his golden cut, but sometimes left out the glazing bars, so how could you say in 1923 whether it was architecture or not? Only builders left out the glazing bars. From then right up to now he has shown similar heretical tendencies against the pastime of the moment—schools without wedge-shaped halls or bits of polygonal masonry. He is rather like a woman who does not seem to worry about what is the correct thing to wear this year so long as she looks well dressed.

As in the case of Mark Tapley, cheerfulness keeps breaking into his designs and in thirty years I have never been able to persuade him that he ought to be always wholly serious. I therefore have the greatest pleasure in the fact that he has been awarded the Royal Gold Medal, and I hope that in spite of it he will continue to be useful in the office and kind to his honoured, delighted and somewhat awestruck partners.

The President: I call upon Sir Hugh Beaver to speak.

Sir Hugh Beaver, M.Inst.C.E.: I feel very honoured indeed, as an engineer and as an industrialist of sorts, to be permitted to participate in your proceedings tonight, and as an old friend of Howard Robertson I am particularly happy. But I would like in the few words that I address to you, to look at another aspect.

During the war I was associated with the Ministry of Works, and anyone who was there could not but appreciate the enormous contribution that was made by architects throughout the country to the work of that Ministry. No man gave more to the Ministry than did the architect, and it is a great list of names that remains in my memory—yours, Sir, that of your predecessor, the architect of this beautiful building of yours, Sydney Tatchell, T. P. Bennett, Arthur Kenyon, Francis Lorne, Tait, James, Howitt and how many others throughout the country. Among this great galaxy that came forward spontaneously to serve the new Ministry, who gave so generously of their services to a young Ministry in search of a soul, Howard Robertson was outstanding. His wide vision enabled him to put up with strange bedfellows there. His imagination was just what that Ministry wanted when it was creating its own new traditions, and above all his sense of humour enabled him to stomach the irritations that political and departmental considerations so often import.

So to him, as typical of the best of architects, I would like—though perhaps it is a

little out of order—to take this opportunity to express my thanks and, I am sure, the thanks of everyone who worked in the Ministry, to what architects there did and what Howard Robertson did, in particular, in those war days. You have heard about some of the work that he did there. But I would prefer to ask you to accept my meed of thanks tonight not only for himself but for your profession and other architects in England, Scotland and Wales who have all, I think, done a very great work. It is with some feeling that I say that. I have left those circles now, but I can remember the five years I worked there. What a sorry picture it would have been without such as Howard Robertson and all the other architects who helped!

The President: I call upon Sir Percy Thomas to speak.

Sir Percy Thomas, O.B.E., Past President, Royal Gold Medallist: I will be very brief, and I would like to say how honoured I am that I have been asked to come here tonight to sponsor Howard Robertson in the award which you are about to make to him.

I feel that the Institute, in recommending Howard Robertson for this medal, has not only honoured him but has added lustre to the award of the medal itself. I know very well that many of you know a lot more about his work than I do. For myself, I feel that the exhibition work—that part of his practice which has dealt with pavilions in different parts of the world—has been outstanding, because what is difficult in exhibition work is to give it architectural character, a quality so often lacking in that class of work.

I always hoped that one day young Howard Robertson would be awarded the Royal Gold Medal, and we all, I think, still think of him—I am sure those of you who know him do—as 'young' Howard Robertson, and I hope he may for ever remain so.

I am particularly glad to be here tonight because I want to speak just one word of Howard Robertson the man. When I came to the Royal Institute—a wild Welshman—just after the first world war, I did not know a soul in Conduit Street, and it is Howard Robertson that I remember to this day who first came forward in that friendly manner of his and made himself known to me. Ever since then, at any gathering in London, before I got to know so many myself, I always spotted Howard Robertson, always with a smile. I think more than as an architect, tonight, I like to remember the friendliness of the man.

Mr. E. Maxwell Fry [*F*], *who had been invited to speak on this occasion, was unable to be present. He sent us, subsequently, the manuscript of his speech, which is as follows:*

Mr. Maxwell Fry: We inhabit a little world within a world; the society of architecture. Therein we speak a language known only to us; follow customs of hallowed significance and offer sacrifices at altars we have made sacred for ourselves. This little world, we who have lived long with architecture know well, and it may be guessed at by those whose initiation is upon them.

Our goddess is architecture, the mother and mistress of the arts, but our high priests, our fathers, are men who through devotion to our art and for love of us who form this society, have been raised to kindly office over us, and there upheld by constant renewal of affection.

Nowhere in this little world do altars burn more brightly than in Bedford Square and never was high priest more reverenced and beloved than he who from his long office there, his years of devoted service and his record of firm but kindly administration is shortly to be elevated to the highest honour among us, an honour which our little world of architecture shares with the world at large.

Howard Robertson; this world of ours is yours because you have so largely helped to make it, it is peopled with your devoted students and your friends. You must know therefore how gladly we salute you on this day of your unsought honour and how happy it makes us to see you join that illustrious body of Royal Gold Medallists. Something in your smile and the curve of your eyebrows tells me that the honour will not sit heavily upon you and will never serve to take you from our little world, for upon my word, I don't know what we should be without you.

The President: I call upon Sir Percy Thomas, past Royal Gold Medallist, to escort Mr. Howard Robertson to the platform.

Mr. Howard Robertson was escorted to the platform by Sir Percy Thomas and invested with the Royal Gold Medal.

Mr. Howard Robertson: This is a very great honour for me. If I had the good luck to be dead, I would be completely enchanted by what has been said by the speakers here tonight. I feel I have listened to the ideal obituary. But as I am still alive, I hope that the President and you, Ladies and Gentlemen, will excuse me for being a little personal, because this is the one chance in my life that I will have to be personal.

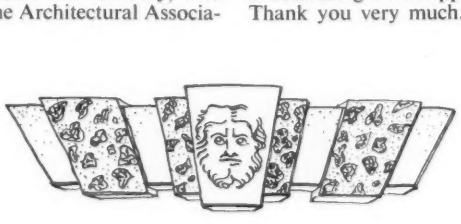
I am a very lucky man. I have been lucky in a great number of ways, and if you will bear with me I would like to enumerate them. First, being the servant of the Architectural Association in the School, I had the privilege of following in the footsteps of Robert Atkinson, who had laid the foundation stone for architectural education and left it for me to go on and pick up all the nice pieces which he had already assembled. Then there is a man—he is here tonight—who will not like what I am going to say, a man called F. R. Yerbury, who was Secretary of the Architectural Association for many years. He and I used to get into the back room together, and it was his imagination and vision that encouraged me all through my educational period. Also I travelled with him, going abroad where he took all those pictures of modern work and those other pictures, some of which were quite publishable! In the third place, I married an architect. My wife is an architect. It is very convenient as a complete guarantee against a swollen head. You have what I might call 'the critic on the hearth'. Then, fourthly, there are the clients, some of whom have been good enough to come here tonight. They are a regrettable but indispensable part of the architect's life, and it is not due to the architect that they remain friends. I have nothing but gratitude for people who will pay their money and risk great experiences, sometimes bitter experiences, with people like myself, but I suppose that every architect feels that way.

Now, I want to say a word about the firm with which I work. I am very lucky in my partners. You have heard John Easton. He talks about my being cheerful, but I have nothing on him. He is the most equable-tempered man in the world, and he has not told you the seamy side, so far as I am concerned, of what he has had to put up with. And there are some other brilliant associates, so that altogether they do all the architectural work and they have the answers to all the problems; and I just float along and it is a very happy state to be in.

Finally, there is the Royal Institute, which has been very good to me. I am a great believer in the Institute, because the Institute believes in principles. You see, it is not political, if you understand what I mean.

In conclusion, I would like to strike a more sombre note, and that is the regret which I know my partners here share that we have not any more with us Stanley Hall, our partner. He was President of this Institute, and from him John Easton and I have inherited our hospital practice—buildings like the Hospital for Sick Children which he did with our present partner, Cusdin. Buildings of that sort have been credited to us, but really he did an enormous share in the building up of our business. I am very happy to have an opportunity to pay that little tribute.

It only remains for me to thank you all, Mr. President, Ladies and Gentlemen, and to say that I trust that this is really gold, because every architect needs that kind of insurance! Whatever the material, I do not think I will let it go the way of all flesh. It is something I will appreciate for all time. Thank you very much.



The 111th Annual General Meeting 3 May 1949

The President in the Chair

The President: I have to present the Report of the Council and Committees for the official year 1948-49 and to move its adoption by this Annual General Meeting.

The Chairmen or other representatives of all the Committees whose reports are appended to the Council's Report have been asked to attend this meeting so as to be in a position to answer any questions which may arise in connection with these reports. I should like to say that we of the Council and the Chairmen of the Committees welcome the opportunity of this Annual Meeting and the presentation of the Annual Report in order to have an opportunity of criticism, if need be, and to get the sense of the Institute as a whole on the actions and proceedings of the Council. We do not answer questions in any spirit of being aggrieved, nor as being penitent for our actions. If you ask questions to which we do not know the answers we shall frankly say that we do not know; we can not answer everything without warning.

The Hon. Secretary seconded the motion.

The President: The meeting is now open for discussion. The Annual Report has been already circulated and is in your hands.

Mr. Gilbert H. Jenkins [*F*]: I think that we can congratulate ourselves on the continued progress of the Institute. In a way, this is a memorable occasion, because this is the first time for several years that we have met in headquarters which are free of debt. For that position we have to thank primarily our late Honorary Treasurer, Mr. Sylvester Sullivan. (*Applause.*) I notice that his successor, Mr. John L. Denman, is following his lead, but I should like the Honorary Treasurer to explain why the implications of the Town and Country Planning Act, 1947, should augment the liabilities in connection with the extension of our headquarters and the rebuilding of the adjoining house. No. 68 is not only land ripe for development, but over-ripe, as, had there been no war, the rebuilding would probably have been completed; and so, unless I am mistaken, the Central Land Board will set off the development charge against compensation to be paid on such land, provided the necessary notices and plans are lodged before 30 June next. I presume that the plans may be sketch plans, and may be subsequently amended, provided that the full extent of the development is shown and it is not afterwards increased. Possibly the Honorary Treasurer will explain the difficulty which he appears to foresee.

The Council deserve our thanks for their success in negotiating, in conjunction with the Royal Institution of Chartered Surveyors, the extension of the time for submitting these claims.

Membership has made new records, and members will await with interest the report of the special Committee of the Council on the future of private architectural practice. It would give a clearer picture of the position if the figures for 1938 and 1939 were added to the statistical table in the Report; one can not follow from the figures given how much we have actually increased since the period before the war.

Time prevents me from commenting on the work of most of the various Committees, but I should like to ask the Architectural Science Board to publish the comparative costs of installing, running and maintaining heating and hot water supplies for a house or flat by tne different varieties of fuel—coke, other solid fuel, oil, gas and electricity, the result of research by an independent body such as the Building Research Station. The figures have been given from time to time by the different public utilities, but they are all suspect, because they appear to be drawn in favour of the kind of fuel concerned. It would be well if we had authoritative data on which we could found our designs.

I have only one bone of contention with the Practice Committee—though it is really a number of bones—regarding the scale of professional charges. I wrote to the Practice Committee to say that the graph was needlessly complicated, as, if it were taken literally as drawn, the scale fee on £1,000 cost of works would be $9\frac{3}{19}$ per cent, and on such an intermediate figure as £3,625 it would be a far more complicated fraction. The Committee replied stating that the graph should be read to the nearest quarter per cent. This means that it is 10 per cent on £200 cost of works, and the scale drops by a quarter per cent for every additional £237 10*s*.

All these complicated calculations could be avoided by altering £200 to £250. Where the expenditure was between £200 and £250 the client would have to pay an additional sum varying between nil and half-a-crown. The drop in the rate of the scale would then take place at every £250 throughout, and there would be no argument, provided the graph were altered to a stepped line. I suggest, however, that even this is unnecessarily complicated, and that to talk of charging $7\frac{3}{4}$ per cent or $6\frac{1}{4}$ per cent is undignified and niggling. A far simpler scale would result if 10 per cent were charged on the first £500, and dropped by half per cent until, as shown in the graph, 6 per cent was reached where the work exceeded £4,000 in cost. The result would be that the architect would earn quarter per cent more on the last £125 in each section, or, in terms of cash, he would receive £50 instead of £49 5*s*. on £500 expenditure and £170 instead of £165 on £2,000. The result would be that we should have a scale that everybody could understand, and a scale about which there could be no argument if it had to be produced in court.

This is only one item in my criticism of the scale of charges. Ever since the world-wide slump at the end of the second decade of this century, the position of the ordinary run of architects in private practice has progressively become more precarious. During this period, however, the Practice Committee has made concession after concession to public authorities or to the great private corporations. These can be set out as follows:

(1) The Committee agreed to break the tradition, based on sound reasons, that the quantity surveyor's fees are part of the cost of the work, thereby reducing the architect's fees by $2\frac{1}{2}$ per cent on new works and more on alterations.

(2) They further agreed to reduce the fees of the more responsible architects by an amount up to $33\frac{1}{3}$ per cent on all works on which a consultant was called in, and by up to one-sixth of the total fees that such an architect would have otherwise received. Another architect has told me that he is negotiating on this question of consultants' fees with a county authority, and the county authority's solicitors say that it is not at all clear what reducing by not more than 1 per cent means; does it mean 1 per cent on the cost of the works, or 1 per cent of the architect's fees, or something else? It is not at all clear.

With regard to the fees of consultants, the Institute or the Practice Committee have ignored the fact that the more irresponsible members of the profession simply give their steelwork, heating and ventilation and all other sub-contracts to a contracting firm instead of to a consultant, without competition, and these firms add 5 or 10 per cent to tneir estimates for preparing a scheme. Thus, this type of architect not only suffers no reduction in his fees but even receives more fees, while the client often has second-rate instead of first-class specialist work in his building and pays a higher price for it.

(3) The Institute should have appealed against the decision that the architect's drawings of a completed building were the property of the client. The judge who gave this judgment stated that the client must necessarily have the drawings, because he may require to know the position of the flues in the wall. This reason was unsound, because in the majority of architects' drawings the course of the flues is not shown at all. The Practice Committee, instead of organizing an appeal against this unsound judgment, has by the scale of

charges bound every architect to prepare on demand, free of charge, 'drawings sufficient to show the main lines of drainage and other essential services.' (That is a quotation from the scale.) Today the essential services may include drainage, water mains, cisterns, cold water supply, hot water circulations and draw-offs, heating pipes, electric light and power, telephones and wireless installations. I have mentioned only those which may be found in almost every building, omitting such installations as air conditioning, inter-communication telephones, electric or other lifts, etc., which are found in the larger building schemes.

The drawings to be supplied have to show these services in the building as completed. Rarely is a building erected and all these services installed without alterations, so that special surveys have to be constantly made during the progress of the contract to keep the drawings up to date, while in the smaller contracts neither the architect nor the sub-contractors would normally prepare drawings for most of these services; so that the architect is mulcted of a considerable proportion of his fees to satisfy an exacting client, and his staff has to be increased or paid overtime for this extra work. If the drawings prove to be incorrect records, the architect runs the risk of being sued for damages.

This is the position in which the Practice Committee has placed every architect by its wording of the scale of charges. It is a position which cries aloud for amendment. I am old enough to remember the furious discussion between architects outside this Institute and those inside as to whether architecture was an art or a profession. It should be both, but the distinguished outsiders complained that the Council of this Institute thought of it solely as a profession.

The conditions of engagement lend colour to this complaint, as under them the architect must on no account improve his design in any material particular without continually going to his client and explaining the improvements that he wishes to make, even though they may save expense. On the other hand, if it is merely a practical matter he is to have a completely free hand, provided the cost is not materially increased. It is well known that the great architects of the past refused to believe that on questions of design the clients were competent to act as the final court of appeal. Sir Christopher Wren's cathedral and Ostberg's famous town hall are two well-known examples, and others could be quoted.

Lastly, there are sound reasons for omitting from the conditions of engagement that the engagement entered into between the architect and the client may be terminated at any time by either party on reasonable notice being given. Its insertion starts ideas in the heads of the more irresponsible clients which might never occur to them if the clause were omitted.

The scale has been revised time and again in the last twenty years, but these defects, which cry for remedy, remain unaltered. These are six separate grievances suffered by every architect, whether a member of the Institute or not, and the Practice Committee decline to attempt to remedy any of them, though they can alter the scale of charges on houses, which does not affect one architect in a hundred. That is my grouse against the Practice Committee.

I have great admiration for the work of many of the other Committees. It is astonishing how the work of this Institute has grown, and anyone who has read the Report can only be lost in admiration that the Council gets through so much work so well.

The President: I would say that any criticisms of the work of a Committee are not justifiably made against the Committee. Everything which is recommended by a Committee of this Institute is actually an act of the Council. Criticism, therefore, does not lie against the Committee but against the Council, who have accepted and implemented the recommendations of the Committee. It is only right and fair to remember that. It is true that the Chairmen of Committees attend this meeting to answer any questions on matters of detail which have been under their charge, but any criticism, it should be realized, must lie against the Council. I say that to clear the minds of the Chairmen of Committees.

The Hon. Treasurer, Mr. John L. Denman [*F*]: I think that Mr. Jenkins has really over-emphasized my remarks in the Annual Report regarding the implications of the Town and Country Planning Act. We have the matter very closely in mind. We have consulted a specialist to advise us with regard to it, and if he is able to persuade the Central Land Board that our properties are ripe, and over-ripe, for development, nobody will be more delighted than myself.

The President: The next point was a request for an authoritative statement on fuel costs. I will ask Mr. Hartland Thomas to deal with that.

Mr. M. Hartland Thomas [*F*]: I shall be very happy to take the request to our Study Group No. 4, on Building Economics, and let Mr. Jenkins have a report, if we can find one.

The President: I think that you could say that exhaustive research on the matter is now being carried out by the Building Research Station, and we are expecting further authoritative statements from them.

If I remember rightly, the remainder of Mr. Jenkins's remarks can be dealt with by the Practice Committee.

Mr. Arthur Bailey [*F*]: I am sorry that our hard-working Practice Committee is not held by Mr. Jenkins in the same esteem as the other Committees. I am grateful to the President for explaining a matter which it would have been an embarrassment to me as a younger member to deal with, particularly to Mr. Jenkins, who has had so much more experience of speaking at these meetings than I have.

The first point is the question of the graph. The alternative suggestion which Mr. Jenkins put up was considered by the Committee, but in their wisdom they decided that the graph which had been circulated and made available to members was the best in the circumstances, and there is nothing that I can add to that, except to commiserate with Mr. Jenkins that he has to deal with clients who argue about 2s. 6*d.* and 5*s.* in his fees. That seems to be the only difference between the two scales which he raises.

The next point to which I should like to refer is his suggestion that the Practice Committee should have taken action in regard to the decision of the judge on the ownership of an architect's drawings. I am advised by Mr. Woodward and by Mr. Redfern, the Institute's solicitor, that this was actually a decision of the Court of Appeal, which is an even higher decision than a judge could have given, and in the circumstances the Practice Committee did not feel justified in commenting on it. The copyright in the drawings still rests, of course, with the architect.

The other points are based on decisions which have been taken over a great number of years, and I do not feel that they arise out of this Report nor that I can answer them. They form the basis for what has become accepted practice, and it has been found in our contacts with members of the Royal Institute that they are generally acceptable to them.

The President: Mr. Jenkins kindly gave me an opportunity of knowing beforehand what his questions were going to be, and I think I might add to what Mr. Bailey has said on the matter of the graph and its simplification. For the benefit of those members who have not seen Mr. Jenkins's proposed new graph, I may say that it is a matter of a difference of opinion as to whether it is simpler to have a graph with a plain diagonal line from the right-hand top to the left-hand bottom corner or one in step form. It is a matter of opinion which is the easier and simpler.

On the question raised by Mr. Jenkins of the quantity surveyor's fees, I was a member of the Scale of Charges Committee when that matter was discussed, and it was decided on the question of principle that it was not good practice to charge fees on fees. That was the principle which guided the Council at that time.

The matter of consultants' fees which Mr. Jenkins raised is, I would remind you, an old matter, a matter which has been in our scale of charges for a very considerable number of years, and is nothing fresh.

On the question of the copy of the drawings being the property of the client, I can remember from my own family experience that it was a standard practice of three generations that the client should have such a copy of the drawings at the conclusion of the job. On the question of the conditions of engagement, I can not help feeling that the real reason why the condition was put in that the architect must refer to the client for any change of design was merely because the architect is viewed as a trustee of his client's money. We know how our

clients trust us with even very large sums of money, and I think myself that it is a matter of right principle that you should not depart from what you have already shown your client as your idea of how to execute his wishes without consulting him, the paymaster. The provision regarding the termination of the agreement cuts both ways, and it may help the architect to get rid of a bad client. There may be other comments on Mr. Jenkins's questions which somebody else could make more efficiently than I can.

Mr. Jenkins: May I be allowed to comment on one or two of those points? The point about the drawings is this. No architect would mind his client having copies of his working drawings, but that is not what the scale says. The scale says that the architect shall supply the client with record plans of the job as executed, with everything shown in its right place. That is what is implied, and that is how the Court would interpret it. The consequence is that if things happen to have been altered and have not been recorded on the drawings sent to the client, the client would surely have a right of action if he cut into a wall and found that something was not there, where it was shown to be. It is to that I object. I have no objection to supplying my client with a copy of the drawings if he wants them, but I object to supplying free of charge something that may cost me anything from £50 to £150, and then not to be sure that it is accurate.

The President: I think you have established that point very clearly. Has Mr. Bailey or the solicitor any comments to make on that?

Mr. Bailey: As far as our own practice is concerned, and not speaking now for the Committee, we make a point of trying to do drawings of everything as the work is done. We do not go on to the work and expect to make a fresh set of drawings of something we had not thought of before. These things are recorded and dealt with as the work progresses, so that at the end of the work the drawings should represent what is carried out, and those are the drawings which are presented to the client.

The President: Are there any more questions or comments on the Annual Report?

Mr. G. F. Whitby [*F*]: I should like first to turn to the Balance Sheet, page 14, and to assure you of my great admiration for the Balance Sheet itself. It is a real work of art, a notable Balance Sheet in the history of the Institute. It is perfectly symmetrical. In these days, of course, we distrust anything symmetrical, or at least many people do, and there are some funny features about it when you come to look into it. For instance, there is a sum of £105,000 on the right shown as assets which is balanced exactly by what amounts to a reserve fund on the left-hand side at the bottom. That seems a very pretty bit of accountancy, and, looking into it, it is.

First of all, on the assets side we have the leasehold of these premises shown as an asset of £102,517. Incidentally, I would remind members that on a previous page the leasehold of No. 68 is described as a liability. However, this is shown as an asset here, and the reserve fund has been juggled with so that it does balance this figure, and totals £105,273. The proper or true value of this leasehold can not surely be £102,517. That is, I believe, its purchase value. If this were written down somewhat it would mean that our reserve fund could be written down, and consequently the £7,079 which has been transferred from the Completion of Premises Fund to the reserve fund could be put back again. I think you will agree that it would be nice to put that £7,079 back; it would almost double the Completion of Premises Fund, and I believe that it could be done by a little bit of accountancy. Admittedly it would deprive the Balance Sheet of its symmetry, but I do not think that that is important.

Coming to the Income and Expenditure Account, on the first two pages of it I shall say very little, except to congratulate the Secretary on managing to reduce the telephone bill. I would add, however, that the figures given for the cost of the JOURNAL are again very sketchy. I will not ask for more this time, as I know that they could not be produced, but I feel that further information on the cost of the JOURNAL should be provided in future years, and I think that that is the feeling of other members.

On page 16 we come to another small point, the grants made by the Council. These are reported in the Council's own report, on page 3, but if you compare page 3 with page 16 you will find that the grant of £5 5*s.* to St. Marylebone Parish Church Repair Fund is omitted from the report, and also the grant of £5 to the International Federation for Housing and Town Planning. They are small grants, but it seems a pity that the Council did not refer to them. There is, however, another grant made by the Council which has been omitted from the Council's report, and that is the grant to the Architectural Student's Association Conference, a grant of £50 to a body of students, the majority of whom have good intentions, but who are led by a small clique of political extremists with very definite views which hardly accord, I feel, with the policy of the Council. It is a great pity that £50 should have gone to people like that. If architectural students need to associate, let them associate within the confines of the Institute and in a body which is under the guidance of the Institute. If the need is there, I am sure that the Institute can supply the answer. I suggest that grants to outside bodies such as that should not continue in future.

Going further down the accounts, there is a number of items of expenditure which are not substantiated in any detail, and I feel again that members have every right to see these figures substantiated. I will read them out: Architectural Science Board, £709; Public Relations Committee, £2,465; and this last item should be considered in relation to their added expenditure of £1,000 on exhibitions, so that really the Public Relations Committee and the exhibitions cost £3,400 odd. The Codes of Practice Committee claim to spend £500. The Institute has disclaimed all responsibility for this Codes of Practice Committee, which I believe is a Committee organized by the Ministry of Works. I will not say that it is useless to ask questions about it, but I suggest that we should not have the occasion to ask questions about it next year.

The Negotiating Officer and Appointments Department ran away with a lot of money too. I wonder how many appointments were made and how many cases were negotiated, and with what degree of success? That is not recorded in the report of the Council itself. Then we get another cryptic figure, of £305, for 'publication of National Plan'. One would assume from that that a National Plan had been published. If it has been published, I feel that we should expect a review, or perhaps an obituary, in the R.I.B.A. JOURNAL, and perhaps a little reference to it in the report.

My last item on the account is 'Canteen, £68 19*s.* 6*d.*' Last year we were told at the Annual General Meeting that an expenditure of some £400 odd (I believe it was) on the canteen during that year was going to be wiped off this year. This is a funny way of wiping it off. It looks as though the canteen continues to lose money and that the Institute is subsidizing it. We had a promise that this would be wiped off, and I think that something should be done about it. The canteen should be made to pay its way, and I feel that a figure for the canteen should not appear in a future Balance Sheet.

The Annual Report, I feel, is not full enough. I should like to see it much fuller, and if it were it would be more readable and more people would read it, provided that those who draft it realized that it was meant to be read when they do the drafting. I am not sure that they do, but we will come to that later. I shall go through it page by page and point out a few things that worry me.

Page 5, Superannuation Conditions for Teachers of Architecture. The Board of Architectural Education appear to be doing this, though it seems to be the job of the Negotiating Officer. They may be doing it through the Negotiating Officer, but the report on his activities appears elsewhere.

Page 6, report of the Architectural Science Board. Perhaps I am inclined to look at this a little harshly, but when one reads that a sub-committee has been formed 'To keep in view the legislative aspects of the work of the Architectural Science Board' one wonders where they are going. Later on it will be found that this sub-committee is considering the report of the Porter Committee on the law of defamation. What has that to do with architectural science? That is a straight question.

I would make one small comment on the list of lectures. That on 'Full-scale Trials on House Heating Systems' was a very long one and was very fully reported in the JOURNAL, where it took up, I believe, 18 pages altogether—18 valuable pages to tell

us, virtually, that draughts came in under doors. There was little more than that in that long report; it was literally so much wind.

Under 'Study Group No. 1, "Building Needs",' we have this, and this is good: 'The Study Group have taken factories as the first subject of study and have presented an interim report to the Board, comprising a suggested method of assessing needs by studying numerous sources of requirements under three main heads—people, process, and site—against five "aspects of adequacy".' I read this because I am sure that many people have not read it. The five 'aspects of adequacy' are 'relations, comfort, economics, performance and legislation.' I should like to have that explained fully. It is just about English to me, but it has very little meaning. Think of studying or assessing needs by studying sources required under 'people' against 'five "aspects of adequacy", namely, relations, comfort, economics, performance, and legislation.' I only hope that these five aspects of adequacy are not intended to replace the five orders of architecture, but there is a suspicion here that they are so intended.

The other bright remark in the report of the Science Board is under Study Group No. 4, Building Economics. They have made a great discovery during the course of their studies, that design has a bearing on building economics. I feel that they should be congratulated on that; it is obviously much clearer than the conclusions of Study Group No. 1. They point out that that great discovery is not fully appreciated by bodies studying that subject from other and limited aspects. Of course, science is not a limited aspect.

It does seem a pity that permanent and paid officials of the Institute waste so much time—and their time is short, as we all know—on this Architectural Science Board. One does not mind the Architectural Science Board discussing these things amongst themselves, but we are told that we are short of staff, and staff, as we can see from the accounts, are very expensive. I suggest that the activities of this Board could be reduced very considerably without any great loss, and in fact with great gain to the Institute.

I feel that that is almost enough for one Annual General Meeting. I have a few other points, but I will leave it at that for the moment.

The President: Before calling on the Honorary Treasurer to reply, I should like to congratulate Mr. Whitby on his astute analysis of the Balance Sheet, a subject which is generally lacking in humour.

The Hon. Treasurer: Mr. Whitby seems to prefer an asymmetrical Balance Sheet, but this is hardly the time to go into the numerous intricacies and technicalities of a Balance Sheet. I can only assure you all that we have given not only the Balance Sheet but the whole of the accounts most careful consideration, and if we have produced a pretty good picture I think that we are to be congratulated.

I should like to remind you of these facts. By the end of 1939 there was a deficit of £20,874. Between the years 1940 and 1948, through certain economies, that was reduced to something like £7,000. At the end of 1948 the mortgage was finally paid off and the Leasehold Premises Reserve Account wound up. The opportunity has been taken to establish a new Completion of Premises Fund, because we have to meet that contingency in the future, and it is going to be a heavy one. At the same time the opportunity has been taken to get the Balance Sheet generally on a strictly liquid cash basis, and we have gone into that most carefully. We are now in the position that all the liabilities in the Balance Sheet are supported by securities or cash or sound debtors. That is the real position with regard to the Balance Sheet. If Mr. Whitby wants any more details, we shall be happy to give them to him.

As to the payment of the £50 to the students, I can only remind Mr. Whitby of what the President has already informed you, that that is one of the questions that are really decided by the Council, and you must not blame the Finance and House Committee for that. With regard to the departments to which Mr. Whitby has referred—the Architectural Science Board, The Public Relations Committee, the Negotiating Officer's department — the items referring to those in the future will be kept under the heading of Salaries and Gratuities. It is hoped that the work of the R.I.B.A. Codes of Practice Committees will be finished by the end of 1949, and that Mr. Whitby will not be troubled by that item occurring again in the accounts. As for the National Plan, that was produced after an enormous amount of work, but the Council in their wisdom decided that it would not be advisable to publish it at this stage.

I think that his last real point relating to the Finance and House Committee concerned the canteen, and he referred to the trading loss of £68 odd. The canteen is not run for profit. It is run for the benefit of the members and the staff, and it has proved of very great service to the Institute. We have run it as closely as we possibly can to costs. There were certain trading expenses which had to be met, and this item is partly due to that. If it is feasible to carry a slight profit (and that is all that we should endeavour to make) in our next year's accounts we shall do so, but we certainly are not going to make a heavy profit at the expense of the members or the staff.

The President: Before we leave the Balance Sheet, our accountant is here, and if Mr. Whitby has any further questions I am sure that Mr. Nicholson will deal with them.

Mr. Whitby: I should like to know whether the Completion of Premises Fund could have that £7,000 back by an adjustment of the accounts.

Mr. T. H. Nicholson: The word 'fund' is intended to be represented on the other side by something readily realizable, and the figure of £10,632, which is now the figure representing the fund, is available in investments and cash, after providing sufficient liquid assets to be ready to pay all the liabilities. That £7,000 odd is really represented on the other side by part of the building, and that is not liquid. That is the object in restricting the fund to the £10,000 at this point.

The President: I will ask Mr. Hartland Thomas to deal with the Architectural Science Board questions.

Mr. Hartland Thomas: I think that Mr. Whitby's evidently hostile attitude to the work of the Science Board has its origin in a feeling that the Science Board does indeed want, as he suggested rather wittily, to substitute five aspects of adequacy for the five orders of architecture. One of our difficulties on the Science Board is always to be saying to members that we do not have any such inflated views about the importance of science to architecture. I fear that there are still many members who fancy that the Science Board is an institution that is set up in order to substitute science for art in architecture. Nothing could be further from our work. We are aiming to give a service to architects to help them to find, ready to their hand, the necessary science in order to exercise their art.

On the question of organization and the amount that stands against us in the Balance Sheet, we have a secretary whom we share with the JOURNAL; he is also assistant technical editor of the JOURNAL. That means that he combines working for the Science Board and the contacts and discussions that he is helping to guide there with work for the JOURNAL, and he is able to use his experience with the Board to help him to be a better assistant technical editor of the JOURNAL.

The criticism is made that our report is too condensed. We know that only too well, and we have arranged to have available for any member who wants to see it a full annual report that we prepare not at the rather odd time of the year that this meeting requires, but at the end of the session. If, therefore, you apply to the secretary of the Science Board now you will get a copy of our full report of last summer, but if you wait a month or two you will get a full report of this session.

We have not, however, condensed our report quite as much as Mr. Whitby has condensed it. He asked us what we had to do with the law of defamation, and he did not read the rest of the sentence, where it is clearly explained what we have to do with it, namely, 'so far as it affects architects, especially when commenting on materials and processes.' That is a very difficult question. You can apply to the Building Research Station for an opinion on a certain material, and they dare not give you more than an opinion on that type of material in general. That, I submit, is an acute question in the service of architecture.

I do not know whether you would like me to explain the question of building needs and the aspects of adequacy. The point is this. Particularly since the war, many archi-

tects are working for what are shortly called community clients. They do not have a person whom they can catechize on his needs for a particular building, but they work for a committee or a board of directors or an industrial concern or a local authority. Many of us have to work for rather an indefinite client who is giving us our instructions, and we never meet the people for whom we are really working, namely the clerks in the Government offices, or the managers and staff in the factory.

We have felt for some time at the Science Board that we might be able to get hold of sociological work and try to get it into a form where it would be useful for architects. That is always what we are trying to do—to get the results of researches in various disciplines and fields of knowledge and make them useful to the practising architect. If, as in this case, nobody else is doing that work, we 'have a crack' at it ourselves, and we hope in the case of this particular study to bring it to an issue soon where we can lay down for this particular type of building a pattern of how a short guide could be produced that would remind the architect designing a factory of the various things to which he should look.

If I am asked how we relate the five aspects of adequacy to people, I would remind you that the five aspects are relations, comfort, economics, performance, and legislation, and a little imagination will make the matter clear. The relations of people are how they get on with one another and how the building should be planned to make it easy for them in their work to get on with one another. Comfort is clear enough, and that is very much the architect's concern. On economics, the question is whether the building is what they can afford, and whether it is worth while from their point of view to spend money on this or that. Performance concerns whether the material should be chosen to do one thing or another, the finishing materials and the structural materials, in relation to the movements of people round the building or on the site. There is, of course, legislation in regard to the people in a factory; we all know that.

With regard to the other detailed point, on building economics, it is the extreme condensation of this report that makes it possible to pull our legs about having only just discovered that design has an influence on economics. The point, of course, is that we found that there was much study of building economics in progress in various ministries, without much notice being taken of the architect's very important influence on tnis question. So far are we from suddenly discovering that this might be something in which architects might take an interest that the boot is on the other foot. We are much more playing the advocate for the architects, and saying 'For heaven's sake in studying building economics take the most important factor into consideration, which is we as architects.'

The President: I did not keep a careful count of Mr. Whitby's questions. Have any been left out, or has he any more left up his sleeve?

Mr. Whitby: I did not count them myself as I went along. I think that they have been dealt with. There is perhaps one more which I will take from my sleeve, and that is with regard to page 10, where we find that the Professional Text and Reference Books Committee has made progress on a number of books. One is *Building Science* and another is *Building Elements*, and others are *A History of Building* and *Factories and Industrial Buildings*, while yet another is on Drainage. There are some books on architecture.

I feel that if this Institute is going to sponsor the publication of books, the books should have an architectural rather than a building bias. Three volumes entitled *Building* are contemplated. The first one on Materials, is finished, and the synopses of the remaining two have been approved, and contracts with the publisher have been signed. I should like to know whether the Institute is sponsoring these books and whether there is any intention, or possibility even, of the study of those few books assuring tne examinee that he will pass the examinations of the Institute. The examinations until now have been on a very broad basis, but, if the Institute is going to issue books with its approval, there is a danger that the limited point of view put forward in those books—and it is bound to be limited—will be accepted as an official point of view, at least for examinees. I feel that for the Institute to give a blessing to books is a dangerous practice. There is no question there; it is only a remark.

The President: Is there any representative of the Professional Text and Reference Books Committee here to answer that part of what Mr. Whitby said which was a question? If not, could the Chairman of the Board of Architectural Education deal with the question raised on the report of the Board?

Mr. Martin Briggs [*F*]: A question was asked as to why the matter of superannuation of teachers had been dealt with by the Board and not by the Negotiating Officer. If you look at the Report you will see that the question deals with teachers who are employed in universities, schools of art and technical colleges. The difficulty for those teachers is that if they want to transfer from one kind of institution to the other they will find there are completely different pension arrangements, and there is a risk of loss of continuity. The two pension systems are completely separate, and a man who has done ten years in one type of institution may hesitate about transferring, perhaps with benefit to himself, to another. The only body that can effect a junction between those two separate institutions—because you will realize that the universities are very touchy about any infringement of their independence—is a committee which has been set up by the Government, called the Committee for Higher Technological Education.

We have on our Board a representative of the Ministry of Education, Mr. Bray, who is the Under-Secretary, the highest official on the technical side. He has taken a great interest in our desire to get free trade for all teachers, so that they can move easily, and he has asked us to put our problems before the Ministry and has promised to do all he can to effect this very necessary reform. The fact that he is a member of the Board and deals directly with us explains, I think, why we have not felt it necessary to utilize the services of our Negotiating Officer. We are in very close touch with the Ministry, and I do not think that any advantage would be gained by any change in our methods.

The President: I must apologize to Mr. Whitby that the Professional Text and Reference Books Committee has let me down and there is not a member of the Committee present to answer his question, but it shall be dealt with afterwards.

Mr. D. H. McMorran [*F*]: Arising out of your last remark, if that point is going to be referred to the Text Books Committee I suggest that it might not be a bad idea to ask them whether they have heard of a publication called *The Principles of Modern Building*, sponsored by the Ministry of Works and by Mr. Fitzmaurice, of which one volume has appeared and others are contemplated. It aims, I believe, at being a complete review of building construction under modern conditions. It strikes me that some duplication or overlapping may be taking place, and the Text Books Committee might have that point of view in mind.

The President: It shall be put before them.

Mr. McMorran: Mr. Whitby referred to the cost of the JOURNAL, but I think that the Council might pay some regard to the conduct of it. The object of this Annual Meeting is to give the opportunity for criticism, constructive if possible, of the Council's work during the year. It does not predispose me to a favourable view when I open my JOURNAL and find that I am told that the Council has 'wisely' decided so-and-so. Is that inspired by the Council, or is it the spontaneous effort of the editor, or is there some committee at work there of which we know nothing?

I was very interested in the remarks on the Science Board, because they overlap to some extent a letter which I wrote to the JOURNAL last November, to which Mr. Hartland Thomas did reply at the time. The main purport of his reply was to invite me to apply for the full report of the Board's work to which he has referred. I hope that other members will apply for it, because I am sure that it will add to their interest in the remarks made this evening.

I am very glad to hear Mr. Hartland Thomas disclaim any suggestion that the work of the Science Board is entitled to a greater share of attention than the work of the Committees dealing with the other aspects of architecture. His difficulty is, of course, that the title of his Committee implies a special degree of importance, and

I do seriously suggest to the Council that they should reconsider this title, "Architectural Science Board.' The old Science Standing Committee grew this title during the war, when most of us were thinking of other things, and to my mind, and I believe to the minds of others, it suggests something which is not quite in keeping with the objects of this Institute. If the Board is entitled to that title, then let us have other Boards, but, if the work of the Board is on a par with other branches of work here, why should not it be conducted by a Committee?

There is a further aspect of that question. We all have the greatest respect for the work of the Board of Architectural Education, and we should not like to see that work derogated from in any way. I feel that the existence of another Board whose objects are totally different may have that effect.

There is one point to which I hoped that Mr. Whitby might refer, and that is the admirable frankness of the Library Committee on the number of staff which it employs. I think I heard a suggestion that the expenses of other Committees might in future be put in the item for staff. I should like to suggest the opposite process, and see an analysis of staff and establishment costs against the work of the various Committees.

Lastly, why are the Finance Committee so bashful? They are the only Committee who do not publish their names in the Annual Report.

Mr. E. L. Bird, [*F*] (Editor R.I.B.A. JOURNAL): Mr. McMorran referred to the phrase 'The Council has wisely decided.' That was written by the editor because he thought that the decision *was* a wise one. If Mr. McMorran reads the context of that phrase I think he will agree.

Mr. Whitby: Did the editor think it should be reported as a wise decision because that was outstanding news?

Mr. Bird: If the reference is to what I think it was, it was to the decision to put all the monies which are surplus to the completion of Premises Fund, which I think members generally will agree is a wise decision.

Mr. McMorran: A wiser use might be a future unemployment relief fund.

The President: We shall see that the editor does not comment too freely on the wisdom of the Council. I think that most of Mr. McMorran's points were really ones to be dealt with by the Council, and they will be effectively brought to the notice of the Council by the fact that he has raised them here. I will ask the Honorary Treasurer to comment on the suggestion of dealing with the accounts under more spread-out headings, giving more information about the Committees and their activities.

The Hon. Treasurer: We shall bear those remarks in mind, but it would almost need the services of an actuary to estimate what should go to this department and what should go to that, and to dissect this section and that section. It would be extremely difficult, but we will bear the point in mind.

The President: The trouble is that a great many people here have dual, triple, or even quadruple activities, and it is difficult to estimate their time and earnings under each heading. We might begin with the Secretary and try to divide his duties under different headings.

Mr. McMorran: Are there any figures on placings by the Appointments Department? They always laugh at me when I ask them for assistants. Do they laugh at everybody?

Mr. C. H. Aslin [*F*]: The Negotiating Officer tells me that, speaking from memory he has probably placed about a hundred persons in the last year.

The President: Can you give any information on the number of negotiations conducted? I know it is a difficult question to answer.

Mr. Aslin: It is not possible without the documents to say how many negotiations have been conducted, but they have been and are still being conducted with local authorities, boards, Government departments and the like.

The President: If there are no further questions I will ask you to vote on the resolution: 'That the Report of the Council and Committees for the official year 1948-49 be approved and adopted.'

The resolution was carried unanimously.

Nominations for the 1949 Council

In accordance with a decision of the Council candidates nominated for election have been asked to give the following brief particulars for the information of members:—

(A) Address; (B) Date of birth; (C) Degrees, affixes, prizes, publications and distinctions; (D) Type of experience, e.g. official or private practice; (E) Type of practice, e.g. churches, schools, housing, industrial, etc.; (F) Previous service on R.I.B.A. Council and Committees, the Architectural Association or an Allied Society; (G) Military or any other form of national service.

The following candidates have been nominated:

AS MEMBERS OF COUNCIL

Alexander: Thomas MacKelvie. Nominated by F. C. Saxon, Edgar Quiggin, W. Glen Dobie, F. J. M. Ormrod, Harry Banister, G. W. Fraser, *Fellows*; W. H. Glen Dobie, *Associate*. (A) Midland Bank Building, 60 Castle Street, Liverpool; (B) 18 March 1888; (C) F.R.I.B.A., F.R.I.C.S.; (D) Private Practice (some Official Practice, 8 years); (E) Banks, Schools, Commercial, Industrial, Housing and Surveying; (F) R.I.B.A. Council 1942-47; Practice Committee 1944-49; Joint Committee of Architects and Quantity Surveyors. 1946-49; President Liverpool Architectural Society 1942-47; Vice-President 1947-49; (G) Royal Observer Corps and Civil Defence.

Anderson: Alexander Robert Fordyce. Nominated by the Council under Bye-law 34. (A) 9 Stone Buildings, Lincoln's Inn, W.C.2; (B) 15 May 1906; (C) F.R.I.B.A.; (D) Private Practice; (E) Industrial, Commercial, Schools, Flats, Newspaper Offices; (F) R.I.B.A. Practice Committee, A.A. Hon. Treasurer, Council and Committees; A.R.C.U.K. Council and Committees; (G) Ministry of Aircraft Production 1940-45.

Bailey: Arthur. Nominated by the Council under Bye-law 34. (A) 5 Verulam Buildings, Gray's Inn, W.C.1; (B) June 1903; (C) O.B.E., F.R.I.B.A.; (D) Private Practice since 1936 (Official 1940-45); (E) Ecclesiastic, Civic, Hospitals, Housing, Bridges and Industrial; (F) 1947-49 R.I.B.A. Practice Committee (Vice-Chairman), 1946-49 Member A.R.C.U.K. Council, Finance Committee (Vice-Chairman), 1946-48 Admission Committee, other R.I.B.A. Special Committees (i.e. Manpower, Apprentices, etc.); (G) 1940-45 (Ministry of Labour and National Service, Chief Technical Adviser, Government Building War Programme).

Blackett: Johnson. Nominated by David B. Owen, Eric Gordon Harvey, John Selby Davies, Cyril James Fussell, Arthur M. Jones, William J. Davies, Alfred Edward Williams, *Associates*. (A) Borough Architect, Newport, Mon; (B) 18 November 1896; (C) F.R.I.B.A., R.I.B.A. Alfred Bossom Silver Medallist 1929, I.Struct.E. Gold Medallist and Branforce Travelling Scholar 1927; (D) Official; (E) Local Government; (F) Represented South Wales Institute on R.I.B.A. Council and the Allied Societies' Conference 1945-46 and 1946-47; (G) 1914-19, R.E.

Bridgwater: Derek Lawley. Nominated by the Council under Bye-law 34. (A) 42 Bruton Place, Berkeley Square, W.1; (B) 5 May 1899; (C) B.Arch.(Liverpool), F.R.I.B.A.; Author —with John Gloag—of the *History of Cast Iron in Architecture*; (D) Private Practice; (E) General, chiefly Housing, Schools, Hospitals, etc.; (F) Past Member of R.I.B.A. Board of Architectural Education, Schools Committee, Examinations Committee, Exhibition Committee, Art Standing Committee, Films Committee, R.I.B.A. Examiner; Past Member of Architectural Association Council, Hon. Secretary, Hon. Treasurer; Past Member of A.R.C.U.K. Council, Admission Committee; (G) Military Service 1917-19 (France), Civil Defence 1939-45 (London).

Cartwright: Thomas Nelson. Nominated by the Council under Bye-law 34. (A) 6 Clarendon Street, Nottingham; (B) 16 May 1905; (C) Distinguished Service Cross and two Bars, F.R.I.B.A.; (D) Private Practice; (E) Commercial and Industrial, including Hospitals and Housing; (F) Member of Council Nottingham, Derby and Lincoln Architectural Society 1937-39, 1947-48; Vice-President 1949; (G) 1939-45 Active Service in Royal Navy; War Service Rank of Commander R.N.V.R.; Distinguished Service Cross and two Bars, twice Mentioned in Despatches.

Easton: John Murray. Nominated by the Council under Bye-law 34. (A) 54 Bedford Square, W.C.1; (B) 30 January 1889; (C) Godwin Bursar 1927, London Arch. Bronze Medal 1928 and 1936, Essex, Cambs. and

Herts. Bronze Medal 1937; Various Papers and Articles; (D) Private Practice; (E) University Buildings, Laboratories, Hospitals, Offices, etc.; (F) Member of Council 1939-40 and 1944-49, Vice-President 1945-47, Finance and House Committee, and other Committees, President, A.A. 1939-40; (G) Service with London Scottish before and after 1914 until invalided out.

Edwards: John Ralph. Nominated by the Council under Bye-law 34. (A) 37 Oakfield Road, Clifton, Bristol, 8; (B) 7 September 1891; (C) F.R.I.B.A., F.S.A., A.R.W.A., (D) Private Practice; (E) Churches, Schools, Housing, Industrial, Restoration of Ancient Buildings; (F) R.I.B.A. Council 1941-46 (representing Wessex Society); Past President Wessex Society and Bristol Society, etc.; (G) late Captain, Royal Artillery, also Civil Defence.

Enthoven: Roderick Eustace. Nominated by the Council under Bye-law 34. (A) (Office): 10 Bayley Street, W.C.1; (B) 30 May 1900; (C) F.R.I.B.A., A.A. Diploma, S.A.D.G., Medallist A.A.; (D) Private Practice; (E) Domestic and Housing, Shops, and General Practice; (F) Served on R.I.B.A. Council 1948-49 as A.A. Representative, also on Library and U.I.A. Committees (and previously served on Exhibition and Art Standing Committees); Served on A.A. Council 1931-49, President 1948-49; (G) Served 1944-46 with C.M.F. as Captain, General List: Monuments, Fine Arts and Archives Officer.

Fairhurst: Philip Garland. Nominated by the Council under Bye-law 34. (A) 55 Brown Street, Manchester, 2; (B) 22 September 1900; (C) M.A., F.R.I.B.A., J.P.; (D) Private Practice; (E) Commercial, Industrial, Hospitals; (F) 15 years Manchester Society Council, 2 years President M.S.A. 1948-49, R.I.B.A. Practice Committee 1936-38, R.I.B.A. Council 1948-49; (G) —.

Griffiths: Gordon Herbert. Nominated by the Council under Bye-law 34. (A) 67 Queen Street, Cardiff; (B) 31 January 1903; (C) F.R.I.B.A., A.M.T.P.I.; (D) Private; (E) Housing, Industrial and Schools; (F) 1937-39 Chairman, Central Branch, S.W.I.A., Allied Societies' Conference; 1947-49 President, South Wales Institute of Architects; (G) Major, Royal Engineers, India and Ceylon, and at Home.

Heaps: Stanley. Nominated by the Council under Bye-law 34. (A) 16 Whitethorn Gardens, Croydon, Surrey; (B) 17 May 1880; (C) F.R.I.B.A.; (D) Official and Private Practice; (E) Industrial; (F) Served on R.I.B.A. Council 1937-44; Finance and House Committee, Professional Conduct Committee, Practice Committee, Licentiateship Committee, Committee for the Provision of Professional Text and Reference Books, A.S.B. Co-ordinating Committee, Joint Standing Committee on Negotiations *re* Salaries, Joint Committee of London Architects and Builders, etc.; (G) —.

Holford: Professor William Graham. Nominated by the Council under Bye-law 34. (A) 1 Bank Buildings, Princes Street, E.C.2; (B) 22 March 1907; (C) F.R.I.B.A., M.T.P.I.; Rome Scholar in Architecture 1930; Publications: *Civic Design*, *Town and City*, *Roman Verona*, *Future of Merseyside*, *Reconstruction in the City of London*; (D) Private Practice and Central Government, also Teaching; (E) Housing, Industrial and Commercial; (F) Associate Member of Council 1936-47, sometime Member of Executive Committee, Town Planning Committee, Library Committee, etc.; (G) —.

Kenyon: Arthur William. Nominated by the Council under Bye-law 34. (A) 15 Adeline Place, Bedford Square, London, W.C.1; (B) —; (C) C.B.E., F.R.I.B.A., Dist.T.P., M.T.P.I.; publications: *Site Planning in Practice*; (D) Private Practice; (E) Churches, Schools, Housing, Industrial Work in various parts of the country, Hospital Work; (F) Member of Council and Executive Committee, V.P. R.I.B.A. 1948-49, Past President, Architectural Association; (G) 1914-18 War, R.E. service abroad; last war National Service; Adviser to Ministry of Works; Special Mission to U.S.A., Canada, Sweden and Finland.

McMorran: Donald Hanks. Nominated by the Council under Bye-law 34. (A) 14 North Audley Street, Grosvenor Square, W.1; (B) 3 May 1904; (C) F.R.I.B.A., Pugin Student 1925, London Architecture Bronze Medallist 1946; (D) Private Practice; (E) General including Public Buildings, Housing and School Work; (F) Hon. Secretary, Competitions Committee, 1947-49; Joint Hon. Secretary, Practice Committee, 1948-49; *Ad hoc* Committee on Working Party Evidence, 1949; A.R.C.U.K. Admission Committee, 1947-49; (G) Ministry of Labour and National Service, Building Labour Supply Department 1942-45.

Martin: Cyril Frederick. Nominated by the Council under Bye-law 34. (A) The Malt House, Mill Street, Warwick; (B) 1887; (C) M.C., M.A., F.R.I.B.A.; (D) Private Practice; (E) Hospitals and similar Institutions, Industrial, Commercial, and General Practice; (F) Vice-President, R.I.B.A., 1945-47; R.I.B.A. Council, 1941-48; R.I.B.A. Executive Committee, 1945-47; R.I.B.A. Practice Committee, 1944-47; President, The Birmingham and Five Counties Architectural Association, 1941-45; Chairman, Allied Societies' Conference, 1945-47; (G) First World War: Royal Garrison Artillery; Second World War: Officer Commanding 1368 (Warwick) Squadron, Air Training Corps; Captain, Warwick Home Guard; Small Vessels Pool, Admiralty.

Rutter: William Arthur. Nominated by Geoffrey Cecil Wilson, Cecil George Mant, W. Fraser Granger, H. T. B. Barnard, P. M. Andrews, A. C. Hopkinson, Claud V. Ponder, *Fellows*. (A) 'Egmont', South Hill, Guildford, Surrey; (B) 8 January 1890; (C) O.B.E., F.R.I.B.A.; (D) Official Practice; Chief Architect, Ministry of Works; (E) Government Buildings generally; (F) Salaried and Official Architects' Committee; British Committee, International Union of Architects; (G) Served in R.N.V.R. 1915-17.

Shaw: Charles Cecil. Nominated by Henry William Allardyce, Henry Holmes Dawson, *Fellows*; Alexander Essery Aikman, Matthew Maybury, Joseph Cedric Swallow, *Associates*; Frederick Henry Buen, Clarence Arthur Poole, *Licentiates*. (A) 48 Canonbury Park North, N.1; (B) 9 October 1892; (C) B.Arch. (Liverpool), F.R.I.B.A.; (D) Official and Private Practice, now Borough Architect of Barking, Essex; (E) General; (F) Nil; (G) 1914-20, Northamptonshire Regt., Captain; 1939-45, Civil Defence, O.C. Rescue Service, Barking.

Sheppard: Richard Herbert. Nominated by the Council under Bye-law 34. (A) 21 Coram Street, W.C.1; (B) 2 July 1910; (C) F.R.I.B.A., A.A. Hons. Dip., Henry Florence Studentship 1934; *Cast Iron in Building*, *Prefabrication in Building*, and *Building for the People*; (D) Private Practice 1938; (E) General: University Buildings, Schools, Industrial Buildings; (F) Honorary Secretary, A.S.B., 1946-48; Board of Architectural Education, 1948-49; Schools Committee, 1948-49; Council of the Architectural Association, 1936; (G) —.

AS ASSOCIATE MEMBERS OF COUNCIL

Allen: Professor Joseph Stanley Nominated by the Council under Bye-law 34. (A) 3 Devonshire Terrace, Newcastle-upon-Tyne; (B) 15 March 1898; (C) B.Arch., A.R.I.B.A., M.T.P.I., R.I.B.A. Distinction in Town Planning; (D) Teaching and Private Practice; (E) Town and Country Planning, University, Housing; (F) R.I.B.A. Council 1944 to date; Chairman, Schools Committee, 1945; Vice-Chairman, Board of Architectural Education 1943-46; Committee on the Training of Architects in Town Planning, 1942; Scholarship Sub-Committee; Examiner (Intermediate R.I.B.A.); (G) —.

Barrett: Walter. Nominated by Delamark Frank Ingleton, *Fellow*; Geoffrey P. Platt, James H. Tranter, Gilbert Ray, John Hankinson Terry, James Brown, *Associates*; Cyril J. P. Lloyd, *Licentiate*. (A) 'Lanbury', Uzmaston Road, Haverfordwest; (B) 28 March 1899; (C) A.R.I.B.A., M.B.E. (Military); (D) County Architect, Pembrokeshire County Council; Official and Private; (E) —; (F) —; (G) 1917-19 Royal Flying Corps and R.A.F., 1940-46 Royal Engineers.

Brown: Professor Raymond Gordon. Nominated by the Council under Bye-law 34. (A) University of Edinburgh; (B) 18 March 1912; (C) A.R.I.B.A., A.A.Dip; (D) Private Practice and Architectural Education; (E) Housing and Industrial; Principal, A.A. School; Professor of Architecture, Edinburgh; (F) Officer of R.I.B.A. Board of Architectural Education; Chairman, Schools Committee, R.I.B.A.; Chairman, Prizes and Studentships Committee, R.I.B.A.; A.R.C.U.K. Council and Board; Town Planning Committee, R.I.B.A.; Work with Architectural Association and Edinburgh A.A.; (G) Army, 1939-45.

Cadbury-Brown: Henry Thomas. Nominated by the Council under Bye-law 34. (A) 17 Clarges Street, W.1; (B) 20 May 1913; (C) A.R.I.B.A.; (D) Private Practice; (E) Commercial and Domestic; (F) Housing Committee, Public Relations Committee. R.I.B.A. Board of Examiners (Intermediate) 1949; (G) Royal Artillery 1939-45.

Cordwell: John Donald. Nominated by E. Maxwell Fry, J. B. Drew, *Fellows*; B. E. Auld, N. C. Creamer, N. Starrett, J. B. Shaw, C. S. Knight, *Associates*. (A) 284 High Street, Lewisham, S.E.13; (B) 15 July 1920; (C) A.R.I.B.A., A.A.Dip.(Hons.); (D) Private; (E) Public Buildings, Hospitals, Housing and Flats; (F) —; (G) Flight Lieutenant, R.A.F.V.R., Bomber Command, 1940-45.

Crossley: Frederick Hamer. Nominated by Percy F. Tilley, Roger S. Clark, S. Anthony Whiteley, Leonard Holmes, James E. Riley, Conrad H. Schutte, Norman C. Machin, *Associates*. (A) 'Netherby', Avenue Road, Duffield, nr. Derby; (B) 4 November 1899; (C) A.R.I.B.A., Diploma in Architecture with Distinction in Architectural Design, University of L'pool; (D) Both Official and Private Practice; (E) Schools, Hospitals, Churches, Cinemas, Libraries, Factories, Housing, etc.; (F) Member of Council, Liverpool Architectural Society; (G) Served R.F.C. 1914-18.

Curry: John Musgrove. Nominated by F. W. Holder, J. O. Stevens, H. A. Snow, J. W. Parr, O. P. Carver, Alan Dumble, A. Lloyd Spencer, *Associates*. (A) 174 Kingshill Drive, Kenton, Harrow, Middlesex; (B)

15 April 1907; (C) A.R.I.B.A., Diploma, Town Planning and Civic Design, London University; (D) Private and Official; (E) General: Housing, Banks, Factories, Pithead Baths and Welfare Buildings, Industrial Buildings, Post Offices, etc.; (F) Salaried Members' Committee; (G) —.

Kenyon: George. Nominated by F. W. Harvey, *Fellow*; H. J. W. Stirling, Herbert Padget, Robt. W. Graydon, A. S. Waring, J. S. Johnston, J. McClelland, *Associates*. (A) City Architect, 18 Cloth Market, Newcastle-upon-Tyne, 1; (B) 29 January 1908; (C) A.R.I.B.A., Dip.Arch., Distinction (L'pool); Diploma in Town and Country Planning (Leeds); A.M.T.P.I.; (D) Private Practice and 15 years' official experience in Liverpool, Leeds, Manchester and Swindon; Present position City Architect, Newcastle-upon-Tyne; (E) All types of Local Government Buildings, Schools, Hospitals and Housing, Banks, Commercial Buildings, Industrial Buildings; (F) Fellow of Northern Architectural Association, Member of Executive Committee and Hon. Treasurer of City and Borough Architects' Society; (G) Civil Defence and Home Guard.

Lambourn: Robert Alan. Nominated by Joanne Dupree, Thomas A. Eaton, Stanley Hutchings, P. F. J. Lawson, Aileen Forbes Smith, *Associates*; Stanley Dawes, Sidney G. Rushbrook, *Licentiates*. (A) 'Beckermonds', Knowle Grove, Virginia Water, Surrey; (B) 29 July 1912; (C) A.R.I.B.A.; (D) Both Private and Official Practice in England, the Middle East and Levant; now Chief Architect, Dan Oil Company operating in the Persian Gulf; (E) Housing, Industrial Schools, Clubs, etc.; specialising in designs for semi-tropical and arid countries; (F) —; (G) Company Commander (Major, R.E.). Served in Middle East and North West Europe 1939-45.

Penn: Colin Troughton. Nominated by the Council under Bye-law 34. (A) 62 Parliament Hill, N.W.3; (B) 19 January 1907; (C) A.R.I.B.A.; Publications: *A Key to Modern Architecture* (with F. R. S. Yorke), *A Guide to Official Publications on Building*; (D) Official and Private Practice; on Staff of A.A. School of Architecture; (E) Houses, Offices, Schools, etc. (F) On R.I.B.A. Council since 1944; served on Salaried Members' Committee, Public Relations Committee, etc.; (G) —.

Poltock: John Willey. Nominated by H. S. Butcher, L. B. H. Cremer, L. B. Matthews, R. L. Passmore, G. E. Soulsby, C. W. Williams, J. H. G. Wright, *Associates*. (A) Gable End, Loose, near Maidstone; (B) 3 September 1903; (C) A.R.I.B.A.; (D) Articled Pupil and Assistant in office of Private Practitioner 1920-25; Official with London County Council 1925-31; and Kent County Council 1931-47; now in Private Practice; (E) Housing, Commercial and all types of Schools; work carried out just before the war has been illustrated in leading Architectural Journals in this country and abroad; (F) Committee, Tunbridge Wells Chapter, S.E. Society of Architects 1937-48; Council, S.E.S.A. 1946-48; Education Committee, S.E.S.A. 1947-48; (G) Major, Royal Engineers (Works Services) 1941; Garrison Engineer 1944; O.C. 261 Works Section 1944-45; Member of Committee of Cairo Area M.E.F. Building Technicians Group 1944-45; S.O.R.E. II (Designs), H.Q. B.T.E.; Mentioned in Despatches, Certificate from C. in C. M.E.F. for outstandingly good service.

Shepheard: Peter Faulkner. Nominated by the Council under Bye-law 34. (A) 42 Bruton Place, Berkeley Square, London, W.1; (B) 11 November 1913; (C) B.Arch.(Liverpool), A.R.I.B.A., A.M.T.P.I., A.I.L.A.; (D) Official (Ministry of Town and Country Planning and Stevenage New Town) till 1948, now in Private Practice; (E) Varied, especially Housing and Schools; (F) Member of Council of the Architectural Association; Member of A.A. Executive Committee, MARS Group; Member of Town and Country Planning Committee, R.I.B.A.; Member of Schools Committee of the Board of Architectural Education; (G) —.

Taylor: Maurice Ewan. Nominated by J. Roy McKee, John Needham, *Fellows*; E. Hutton Crosbee, George A. Lyall, Frederic Robert Stevenson, William M. Guild, *Associates*; Peter Sinclair, *Licentiate*. (A) 10 Howard Place, St. Andrews, Fife; (B) 4 March 1915; (C) A.R.I.B.A., M.T.P.I., A.A. Dip. Planning, F.S.A.(Scot.), A.I.L.A., F.R.I.A.S. Neale Bursary 1947; Publications *re* Prize, etc. in Technical Press; (D) Official Practice; (E) County Planning, Fife; (F) South Wales Institute of Architects, Eastern Branch; Dundee Institute of Architects; (G) Civil Defence.

Tubbs: Ralph. Nominated by the Council under Bye-law 34. (A) 35 Welbeck Street, W.1; (B) 9 January 1912; (C) Author of the Penguin Books, *Living in Cities* and *The Englishman Builds*; (D) Private Practice; (E) Industrial, Domestic and General; (F) Associate Member of Council 1944-49, Member of Executive Committee 1949, Board of Architectural Education 1949, Previous Vice-President of the Architectural Association; (G) —.

AS LICENTIATE MEMBERS OF COUNCIL

Clay: John. Nominated by the Council under Bye-law 34. (A) Dalkeith, South Normanton Common, Derbyshire; (B) 25 January 1908; (C) L.R.I.B.A., A.M.T.P.I., Diploma in Town Planning; (D) Present time: Senior Architect, Ministry of Health; previous: Official and Private; (E) Official: Hospitals, Public Health, Schools and Housing; Private: Industrial, Church, Cinemas and Theatres; (F) Member of Council, Notts., Derby and Lincoln Architectural Society; Member of Nottingham School of Architectural Advisory Committee; (G) Special Constable, Instructor A.T.C.

Wakeford: Frederick Charles. Nominated by the Council under Bye-law 34. (A) 24 Holland Way, Hayes, Bromley, Kent; (B) 14 March 1890; (C) L.R.I.B.A., A.I.Struct.E.; (D) Official; (E) Churches, Housing, Industrial; (F) Salaried Members' Committee, 1934-48; Salaried Members' Committee Hon. Secretary, 1937-48; Joint Standing Committee on Negotiations *re* Salaries, 1945-47; Salaried Members' and Official Architects' Committee, 1948-49; Salaried Members' and Official Architects' Committee Hon. Secretary, 1948-49; Member of Architects' Registration Council since 1946. Member of General Purposes Committee A.R.C.U.K. since 1946. Member of Finance and General Purposes Committee since 1946. Member of Reinstatement Committee since 1946. (G) H.M. Forces: 20th Battn., London Regiment, T.F., 1914-16; discharged as disabled.

Whitehouse: Sidney Lunn. Nominated by the Council under Bye-law 34. (A) New Eldon Chambers, 50 Cherry Street, Birmingham, 2; (B) 4 February 1896; (C) L.R.I.B.A.; (D) Private Practice, Lecturer and Teacher Birmingham School of Architecture. (E) Churches, Welfare Buildings, X-ray Laboratories; Commercial, Industrial and General Practice; (F) R.I.B.A. Council 1935-45 Art Standing Committee 1932-35, Licentiate Committee 1946-49; Past Hon. Treasurer and Hon. Secretary of Allied Societies Secretaries' Conference; Examiner in Professional Practice; Birmingham and Five Counties Architectural Association:—Hon. Secretary 1929-33; Member of Council, Advisory, Library and Education Committees; Vice-President Elect; (G) 1914-19 Royal Engineers and Royal Flying Corps; 1939-45 Civil Defence and Hon. Assist. Regional Technical Intelligence Officer.

ATTENDANCES AT COUNCIL MEETINGS (Session 1948-49)

(UNLESS OTHERWISE STATED THE MEMBERS' ADDRESSES ARE IN LONDON)

THE COUNCIL (9 Meetings)

President: Michael T. Waterhouse, 9.

Vice-Presidents: C. H. Aslin (Hertford), 9; A. Graham Henderson (Glasgow), 7; A. W. Kenyon, 9; A. B. Knapp-Fisher, 8.

Honorary Secretary: †A. Leonard Roberts (Winchester), 8.

Honorary Treasurer: †John L. Denman (Brighton), 6.

Members of Council: C. H. Aslin (Hertford), 9; Victor Bain (Leeds), 9; J. Murray Easton, 6; J. H. Forshaw, 7; E. Maxwell Fry, 3; Frederick Gibberd, 9; Leonard C. Howitt (Manchester) 4; T. Cecil Howitt (Nottingham), 8; A. W. Kenyon, 9; A. B. Knapp-Fisher, 8; S. W. Milburn (Sunderland), 8; Howard Robertson, 6; Herbert J. Rowse (Liverpool), 7; C. G. Stillman, 5; John Swarbrick, 9; Sir Hubert Worthington (Manchester), 2; F. R. S. Yorke, 7.

Associate Members of Council: Professor Joseph S. Allen (Newcastle-upon-Tyne), 6; Henry Braddock, 9; D. E. E. Gibson (Coventry), 4; J. L. Gleave (Glasgow), 4; R. A. H. Livett (Leeds), 5; Colin Penn, 5; Andrew Rankine (Hull), 5; Ralph Tubbs, 8; R. H. Uren, 9.

Licentiate Members of Council: ‖W. Dobson Chapman (Macclesfield), 1; Bernard H. Cox (Cardiff), 8; Charles Oliver (Hull), 8.

Past Presidents: H. S. Goodhart-Rendel, 8; Sir Lancelot Keay, K.B.E. (Liverpool), 1.

Representatives of Allied Societies in the United Kingdom or Eire: Northern Province of England: F. Austin Child (Northern Architectural Association), 4; P. G. Fairhurst (Manchester Society of Architects), 8; Professor Lionel B. Budden (Liverpool Architectural Society), 1; A. Newton Thorpe (York and East Yorkshire Architectural Society), 8; Benjamin Chippindale (West Yorkshire Society of Architects), 9; Professor Stephen Welsh (Sheffield, South Yorkshire and District Society of Architects and Surveyors), 5. *Midland Province of England:* Frank J. Osborne (Birmingham and Five Counties Architectural Association), 9; Percy H. Grundy (Leicester and Leicestershire Society of Architects), 8; P. J. J. Panter (Northamptonshire, Bedfordshire and Huntingdonshire Association of Architects), 8; R. E. M. Coombes (Nottingham, Derby and Lincoln Architectural Society), 8; Martin J. Slater (East Anglian Society of Architects), 4. *Southern Province of England:* C. Lloyd Jones (Devon and Cornwall Architectural Society), 8; *William G. Newton (Wessex Society of Architects), 4; §S. E. Urwin (Wessex Society of Architects), 3; H. F. Hurcombe (Berks, Bucks and Oxon Architectural Association), 9; Ernest Bird (Hampshire and Isle of Wight Architectural Association), 7; R. C. Foster (Essex, Cambridge and Hertfordshire Society of Architects), 9; Harold Anderson (South-Eastern Society of Architects), 8. *Allied*

Societies in Scotland (Royal Incorporation of Architects in Scotland): Leslie Grahame-Thomson (Edinburgh), 7; Lockhart W. Hutson (Hamilton), 5; A. G. R. Mackenzie (Aberdeen), 1; A. H. Mottram (Edinburgh), 9. *Allied Societies in Wales:* Major Gordon H. Griffiths (South Wales Institute of Architects), 8. *Allied Societies in Ireland:* Francis McArdle (Royal Institute of the Architects of Ireland), 2; Valentine Smyth (Royal Society of Ulster Architects), 0. *Representatives of Allied Societies in the British Dominions Overseas:* Forsey Page (Royal Architectural Institute of Canada), 0; L. Sylvester Sullivan (Representative in United Kingdom), 6; W. R. Laurie (Royal Australian Institute of Architects), 0; Sir Hubert Worthington (Representative in United Kingdom), 2; H. L. Massey (New Zealand Institute of Architects), 0; J. Murray Easton (Representative in United Kingdom), 6; E. Douglas Andrews (Institute of South African Architects), 0; Michael T. Waterhouse (Representative in United Kingdom), 9. **——(Indian Institute of Architects), 0; **—— (Representative in United Kingdom), 0.

Representative of the Architectural Association (London): R. E. Enthoven, 9.

Representative of the Association of Architects, Surveyors and Technical Assistants (now the Association of Building Technicians): K. J. Campbell, 5.

Chairman of the Board of Architectural Education: Martin S. Briggs, 9.

Chairman of the R.I.B.A. Registration Committee: ¶Darcy Braddell, 4; ‡Lieut.-Col. V. H. Seymer, 0.

Two Representatives of the R.I.B.A. Salaried and Official Architects' Committee: †P. K. Hanton, 7; †R. H. Matthew, 4.

Marked thus:—

†Appointed at or after the first meeting of the Council. Possible attendances, 8.

‖Resigned after the first meeting of the Council on account of ill-health. Possible attendances, 1.

*Deceased 11 1 49. Possible attendances, 4.

§Appointed after the fifth meeting of the Council. Possible attendances, 4.

¶Retired as Chairman of the R.I.B.A. Registration Committee after the seventh meeting of the Council. Possible attendances, 7.

‡Appointed after the seventh meeting of the Council. Possible attendances, 2.

**No representatives appointed on the Council for 1948-49.

The Architect in Industry

Report of a Conference held at the Royal Institute of British Architects

3 and 4 March 1949. Part II

SESSION IV. Reports from Technical Group and Discussion.

Chairman: Michael T. Waterhouse, M.C., President R.I.B.A.

Structural Techniques

Mr. W. S. Atkins, B.Sc., A.M.I.C.E., dealing with the Technical Group on Structural Techniques, said that there seemed to be agreement on the need for good industrial architecture, bearing in mind how much of their lives industrial workers spent in and around the buildings in which they worked. The architect should be called in at the beginning, so as to give wide consideration to all the building problems and requirements and be able to offer more possible solutions in these difficult times to the works engineer, with whom he would work in close collaboration. The architect knew the alternatives to the materials in short supply, the sources of supply and the adequacy of substitution where that was required to get over temporary difficulties.

On the structural side, there was a general desire in all countries for cleaner outlines in industrial construction. Some continental countries had gone much further in that direction than we had, and their outlook on building economics in industry seemed to be rather wider than ours.

There was a growth in the use of welding, and a somewhat greater use of high tensile steel in steel construction. The open precast concrete frame job was now fairly well established, and would be used more and more, probably with improvement in the details and greater availability in industry. The barrel vault construction found a considerable number of supporters and was used in various forms, either with the use of pre-stressing to cover large spans or with the use of ordinary mild steel reinforcement. Both precast concrete and barrel vault concrete would be influenced by the use of pre-stressing, which was being pushed in this country by the Ministries for the sake of the economy in the use of steel. The use of pre-stressing in continuous structures would presumably come in the near future, and there was an indication of that already.

The whole trend was towards cleaner, more unobtrusive framing, and with that went the treatment of services in relation to the whole; it was no use putting up a clean framework and cluttering it up with various services. The services must be gathered together without loss of accessibility for maintenance.

Did not all this indicate the need for a central, independent control of the construction, in liaison with the works or production engineer? That was a question which must be answered by the industrialists themselves.

He wondered whether the Conference had properly satisfied all those who attended it that the architect and his collaborators were realists in industry, with their feet on the ground, and not looking at the problem from an airy view-point. If an industrial reconstruction or new construction was undertaken, a tremendous load fell on the works and production engineers, and without any outside help they were expected to deal not only with the planning of new production, which often meant new plant, but with construction, with the contractors and so on. How far did this affect their efficiency? The professional man was a transient expert; he came in to assist on a peak load and dealt with a specific section of the reconstruction, and then went away, leaving the works and production engineers to carry on with their job.

Heating and Ventilating

Mr. Richard Eve, B.Arch. [*A*], summing up the meeting of the Technical Group on Heating and Ventilating, said that the three speakers had covered the field fully, Dr. Bedford, the expert on the physiological side, had discussed the requirements in the factory for the human being; Mr. Copeland Watts, as a consulting engineer, showed how the engineer was attempting to meet the design considerations; and Mr. Sutton, an engineer of the Ministry of Fuel and Power, had discussed the necessity of conserving heat by insulation. 'Out of courtesy to our profession', Mr. Eve added, 'none of the speakers mentioned the need for collaboration between the heating engineer and the architect, but some of the slides shown indicated the need for it'. A questioner had brought that out very clearly, and had shown the sort of problem that might confront the heating engineer when he had to deal with an already existing situation.

Dr. Bedford pointed out that temperature and activity must be related. For mild activity he suggested a dry bulb temperature between 60 and 65 degrees F., and mentioned that the Factory Acts required 60 degrees F., and that it was pleasant to see legislation and science in agreement for once. Unfortunately, that seemed to be the end of their agreement. Dr. Bedford also spoke of the need for a reasonable head to foot temperature distribution, and that brought up the wider issue of the difficulty in factory building of keeping the heat down near the operator or other person to be heated.

It was pointed out that it was very nice to put the heat in at floor level, but the floor had usually to be kept clear. If heating pipes were put in the floor it was difficult to avoid overheating, and unless records were very well kept the position of the pipes was lost, and when machines were moved there was a danger of puncturing the pipes.

It was on ventilation that science and legislation fell very far apart. Science indicated that it knew very little about the problem, and the need for finding out more about it was emphasized by the diagram in the Exhibition showing the amount of fuel used in heating the air that moved through a factory. The possibility of using a bacteriological count for the bacteria in the air had been mentioned, but that did

not seem to have advanced far enough to be of immediate help. On the one hand the fuel conservation specialist tried to cut down the amount of air, while on the other it was realized that to go too far in that direction would reduce productivity by inducing sleepiness, and might raise the sickness ratio.

Mr. Copeland Watts had shown the defectiveness of the legislation on the subject, which virtually stated that the amount of air to be supplied should be that required, without saying what that should be. There was great need for research into ventilation requirements and, following from that, for revision of the legislation in the light of what that research revealed. Dr. Bedford suggested, very tentatively, that the best way to deal with the matter might be to state the number of cubic feet to be supplied per hour per likely occupant of the room.

There was considerable discussion on the problem of noxious fumes. The general trend today appeared to be to arrange for a separate circuit of unwarmed air to deal with noxious fumes and dust, entirely separate from that used for ventilation.

Mr. Sutton, dealing with heat conservation by insulation, had showed a very dramatic example of the reduction in fuel consumption by roof insulation in a factory at Banbury. The cost of the insulation was about £8,000 (14*s.* per square yard), and the fuel consumption was halved, from 1,250 to 625 tons per annum, which at £3 15*s.* per ton meant that the capital cost was written off in about three years. That seemed to be a typical example of what could be done. The roof previously was corrugated asbestos.

In the discussion which had followed a keen interest had been shown in insulation, but he was left with the feeling that many people were uncertain about how to arrive at that most important factor in insulation, the U value. He would refer those interested to a publication by the Institution of Heating and Ventilating Engineers called *Computation for Heat Requirements for Buildings*, costing 2*s.* 6*d.*, or to the advisory service of the Fuel Efficiency Branch of the Ministry of Fuel and Power.

The bye-laws came in for criticism, particularly in regard to ventilation and the necessity of putting lavatories on the outside wall and supplying air bricks when mechanical methods of ventilation might actually be installed in the factory.

As a profession, architects came in for a drubbing. One speaker had pointed out that insulation had been a matter of common knowledge since 1924, and asked why architects had not insisted on its use. There was an answer, but it would take too long to give.

In all the discussion on heat conservation, no mention was made of the value of the multi-storey factory, particularly for light industry. That had not been mentioned as much as he would have expected in the Conference generally. He understood that it had advantages in capital cost, and he had in mind the very pleasant æsthetics of the van Nelle factory in Rotterdam.

Mr. Sutton, in speaking of insulation, had emphasized the need for collaboration between different experts, because when the roofs of these factories had been insulated one was at once struck by their pleasant appearance; the 'festoons' had disappeared. Some advantage might also be gained in lighting and perhaps in the reduction of glare.

Natural and Artificial Lighting

Mr. W. A. Allen, B.Arch., [*A*], who dealt with the meeting of the Technical Group on Lighting, said that Mr. R. O. Ackerley, who gave a paper on artificial lighting, made good use of the historical development of artificial lighting in factories to demonstrate the way in which the standards of criticism which were applied to lighting design forced a change at each stage in the development of modern artificial lighting. He mentioned the bare lamp-bulb stage, the stage when all the light was spilt down from industrial reflectors, the arrangements whereby more light got to the ceiling, and then slowly there arose sensitivity to glare and the problems which now existed when using high intensities. Good present practice could be characterized by saying that the bulk of the light was thrown down on to the work, sources were screened to reduce glare, and brightness in the general environment of the room was maintained reasonably well.

It was interesting to see the thread of development running right through the past and present and pointing straight to future development. The major problem of the next stage was controlled brightness and contrast values.

The opinion held about the present position was that where quantity fell below the present recommended standards it should be raised, and quality should be raised everywhere. The question of quality was of great interest, because it involved the sensory problems of glare and the sensations of stimulation or brightness, and something to which architects themselves were very sensitive. It was very difficult to judge whether one had 1 foot-candle or 5 in front of one. It was easy to say of one system that it was more comfortable than another or more stimulating than another, but to predict and control those things would bring the illuminating engineers and architects very closely together, and there would be a virtual identity of interest even if there was some division of skill.

Mr. Ackerley had a word to say on recommended values for general use. It was frequently assumed that they were always too high, and people alleged that they were different in different countries and asked whether there was not one absolute value which could be recommended. In this and most other countries, Mr. Ackerley pointed out, they were very well founded on scientific investigations, and the differences which arose largely reflected local conditions, local ability to attain desired values, and the general state of industry in the particular country.

It was agreed that quantity tended to be swamped by quality criteria. Mr. Ackerley described the way in which the designer of a lighting system now went about his work, by a very careful analysis of the kind of work being done. Not even an operative, and certainly not the general factory manager, would know exactly the nature of the work in the sense of what the eyes were doing from moment to moment and what were the things which distracted a man or which he tried to watch to get his work done quickly. Task analysis was a separate skill, acquired without too much difficulty, but requiring training and knowledge, because it was half intellectual perception. That was the kind of training which an illuminating engineer was given in these days, and a lighting system would be designed very much in terms of the exact work which it had to do.

Mr. Ackerley compared cold and hot fluorescent lighting and tungsten lighting. So far as cold and hot cathode fluorescent were concerned, the middle of the tube did not care what happened at either end! The criticisms generally heard of fluorescent lighting could rarely be established in respect of well-designed installations. Some people were more sensitive to irritation by flicker than others, and this might be a cause of discomfort to a few people; but quite irritating flicker effects could be produced with tungsten lighting.

Mr. Ackerley also referred to the economic value of lighting. There would be general agreement that a factory building was an expensive investment, but an investment in order to produce conditions in which work could be done, and there was no point in not realizing the investment to the full by failing to put in light which would make the work as productive as possible. Lighting had a very considerable effect on the productivity of a plant; with bad lighting, the production curve fell off sharply as daylight disappeared.

Mr. Ackerley had a number of points on the colour of fluorescent lighting, but they could be summed up in the statement that no real criticisms could be levelled at the good installations.

A particular question which was raised was how to light a high bay shed which had a travelling crane in it, a shed 70 ft. high with a crane 50 ft. above the floor. It was necessary to keep the lights very high, and Mr. Ackerley said that the thing to do was to use high bay lighting pointing down, and along the sides, where it would not interfere with the crane hook, have further lighting which would be an advantage, because one needed light from both sides on the bulky objects found in sheds where big cranes were used.

Dealing with natural lighting (on which he himself had given a paper) he had compared the ordinary double pitched roof, the northlight roof and the monitor roof in terms of the amount of light, the usefulness of having light from two directions, and in terms of sunlight and glare, and whether the glass was in big patches or little ones, the tendency to dirtiness, and ease of cleaning. It was interesting to find that the double pitched roof, with its shallow sloping glazing, yielded a good deal more

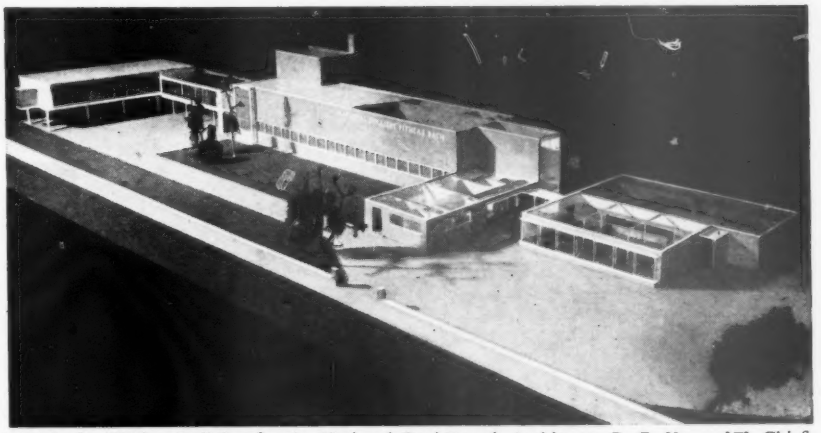
light for a given area of glass than either of the other two systems, and the monitor gave the least amount for a given area of glass; but in all other respects the monitor roof with its two-sided lighting, clearly had major advantages. The only exception was where sunlight had to be excluded for a particular process. One of the great advantages of the monitor was that, since it gave light from two sides, it was possible to run the production line in either direction across the factory, knowing that the products would not be in shadow for the workmen. With a northlight roof, if the production line ran parallel to the northlight a very important side of the product was likely to be in shadow. Even where there was no production line, a good many kinds of industry benefited from having light from two sides, and the lighting in general was more satisfactory to the workpeople because it penetrated beneath the tools and machines and all round them in a more satisfactory way. It was a bad thing to have shadow on the floor.

Dispersed units, the break-up of large areas of glass into small areas scattered all over the ceiling, had been introduced in recent years, it being argued that the distribution of light would be very good. That was certainly the case, but it had been observed at the Research Station that that kind of patchy glazing gave rise in some cases to quite severe forms of irritation, especially where the remainder of the roof was dark. The cause of the discomfort was not known, but there was no doubt about its existence.

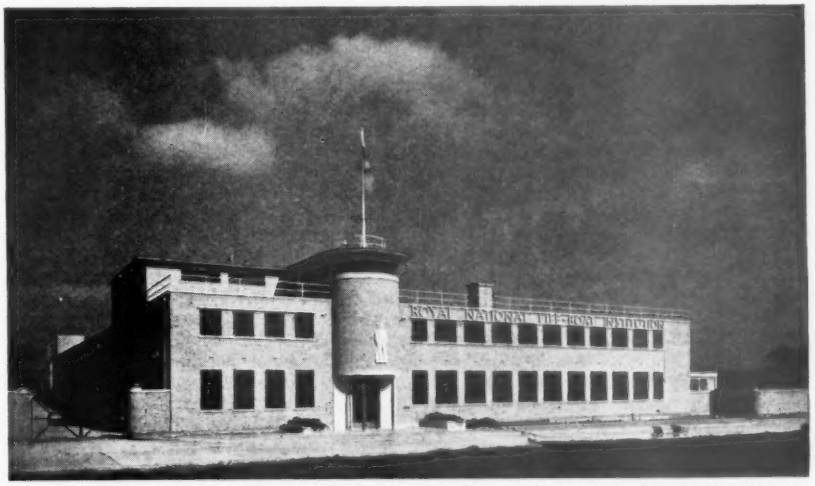
The consensus of opinion seemed to be that usually sunlight was a good thing to have in a factory. It had the disadvantage of bringing in heat, but that was troublesome only for a small part of the year. Another disadvantage were the sharp shafts of light, but these could be dispersed by suitable kinds of glass. One speaker had said that they had northlight roofs, but had to introduce southlight glazing simply to admit some sunlight. Much more information was wanted on that question.

Shell concrete roofs were very difficult to light by natural lighting; they tended to have big spans, and one could get light in only at the edges or along the ridge of a vault; it was a rather primitive and low intensity illumination. This raised the question of mixing artificial and natural lighting. It had been usual to regard artificial lighting as something to use at night, and daylighting as something to be used in the day, but there was no reason why, with fluorescent sources, artificial light should not be used in the day-time to supplement the daylight, thus making more use of the capital investment represented by the artificial lighting system. There might be a further advantage if it were possible to reduce the areas of glass, and so reduce the heat losses. That was a very important point for designers. With a mixture of daylight and artificial light people had the impression of working in satisfactory daylight, so much so that they would often leave without turning off the lights, not realizing that any lights had been on.

Sievert's Cable Factory, Sundyberg, Sweden. Architect: Ture Wennerholm



Model of a Welfare Building for the National Coal Board. Architects: G. G. Kemp [*F*], Chief Architect, J. A. Dempster [*F*], A. T. Saise [*A*], D. D. Jack [*F*], F. G. Frizzell [*A*], O. H. Parry, A.R.I.C.S., J. H. Bourne [*A*], H. Smith [*L*], W. A. Woodland [*F*], W. M. Traylor [*F*]



Depot for the Royal National Lifeboat Institution, Borehamwood, Herts. Architects: Kenchington and Farms [*F*/*A.A.*]

The impression was gained that monitor roof lighting was likely to be the 'best bet' for factory roofs, but that it needed skill in design, and one must compute where the artificial lighting was going. Secondly, there was no reason why natural and artificial lighting should not be mixed successfully.

Various Factors affecting Working Conditions

Mr. H. G. Maule, M.A., said that in the Technical Group on Factors affecting Working Conditions, he and Dr. N. Davis, both speaking as industrial psychologists, attempted to pick out some of the factors which were regarded by the workers themselves as important to their health, comfort and happiness, and incidentally to their efficiency. In order that these conditions should be right, it was supremely important that the architect and the client should get together at the beginning and exchange information about the process, the plant and the whole of the industrial undertaking.

It was noted how frequently the architect built an unsatisfactory workplace because he was not equipped with information about fumes, dust, steam, effluent, waste products, raw materials or other factors affecting the heating, lighting, ventilation or layout of the factory. Unless the client furnished the architect with all that information at the start, the architect could not be expected to provide a building which would satisfy those who worked in it.

Although responsibility for the safety of industrial workers rested on the employer, the architect, if given adequate information, could help to ensure the safety of some workers such as window cleaners, and men who had to go out on the roof and should be provided with adequate catwalks. There was an army of forgotten men in industry whose work took them into danger, danger which, if he knew about it, the architect could do much to prevent.

There were various processes and subprocesses which had special risks of their own, about which the architect must be informed. In some cases, such as the manufacture of cellulose, there were regulations with which the architect must be familiar, and unless he knew that the process was being carried out he might infringe the regulations. In the manufacture of electric accumulators (to take another instance) certain sub-processes demanded the segregation of workers and other special requirements, of which the architect must be made aware.

Reference was made to welfare and allied services, and Dr. Davis emphasized how intensely the worker felt it if not provided with adequate washing facilities; it might at times be the precipitating cause of a strike, or at any rate lead to a reduction in the efficiency of the people concerned.

Under the same heading reference was made to the canteen, the personnel department, sanitary accommodation, the medical department, and recreation. The demands varied according to the locality, urban or rural, and the class of labour. Provision for recreation might be very welcome in a small town, where all the workers lived reasonably close to the factory, whereas in an urban area where most of the workers lived a long distance away not the same use would be made of a sports ground.

The architect, in order to plan properly the personnel and medical departments, where they existed, must know what the firm's policy was regarding the relation of the personnel officer to the works medical officer. Was one over the other, were they both independent, or did both work under some third person? These things would influence the plan.

Different firms probably had different policies, depending on their traditions or those of the locality or industry, as to whether the canteens were democratic or hierarchical. Did the foremen have a separate canteen, and did the junior managers have a separate canteen? The decision would be taken by the management, but must be discussed with the architect. The provision of rooms for joint production committees and other bodies which existed in some firms must always be discussed also when the plan was on the drawing board.

They had then discussed the problem of the optimum size of unit, dealing first with the whole undertaking, whether it was wiser to have a factory of 10,000 or 2,000, and then whether, given a factory with so many thousand workers, one should have large rooms, huge floor spaces without any partitions, or break these down into smaller units, self contained and forming centres of social intercourse. Here the speakers seemed to disagree with those members of the audience who expressed their views; they both felt that the tendency of the past towards bigger and wider spaces was not in the interests of human efficiency and well-being. They were able to quote examples of the small unit which had proved to be a more competent producing unit than a large one. Against that, arguments were raised based on the cost of buildings, overhead charges and so on.

They emphasized the importance of consultations between architect, client, production manager and various experts, but felt that one person had frequently been left out of those discussions at the drawing-board stage—the worker himself. Often the industrial worker knew much more about the snags of a process or the layout of a department than he ever gave away, and, particularly where an existing factory was being extended, the point of view of the man who knew the factory and the processes was apt to be ignored by management, architect and everybody else.

In the discussion, the view had been expressed that it was not the architect, but the engineer who should collect all this information. The works engineer, it was said, would know the snags and requirements, and he should collect the information and pass it on to the architect.

Lastly, the question of cost was raised, and it was asked what it was all going to cost. Neither he nor Dr. Davis was competent to enter into that discussion, but they expressed the view that industry had spent large sums of money on technical research and on studying the efficiency of machines, but very little on studying the human problems of industry. That was where money could well be spent, and they would say better spent than on problems of ventilation.

DISCUSSION

Mr. W. A. Allen, asked for further particulars of the special glass which would minimize the glare of the sun, said he had in mind one of a number of glasses which distorted the beam, rather than those which picked up the light and diffused it on the surface of the glass. There was a danger with diffusing glass of making it very bright in sunlight.

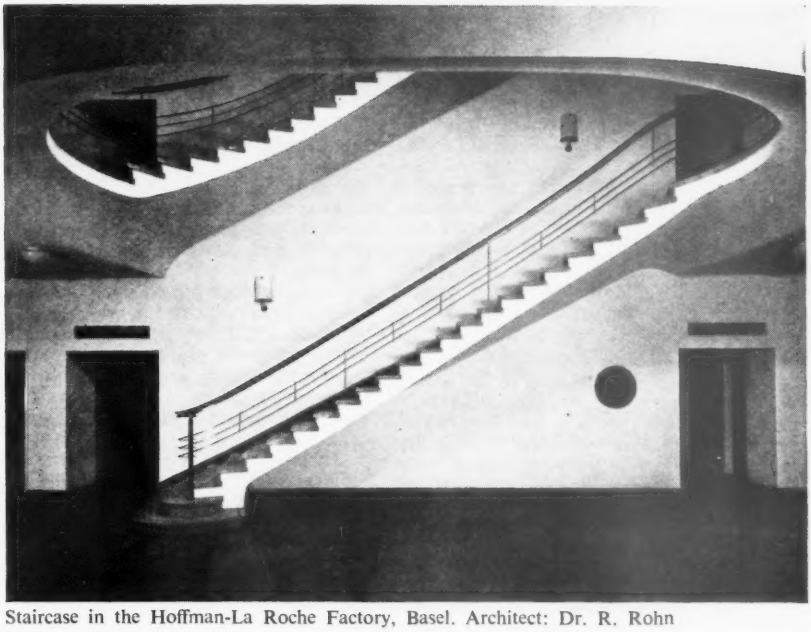
A speaker said that he had had experience of an equal pitch roof over a machine shop which was considered most unsatisfactory in summer, even when whitewashed. He thought that the monitor roof would suffer from the same disadvantage, and in our cloud-ridden climate the sudden transition from high intensity sunlight to one-fifth intensity obscured sunlight might produce fatigue which would affect production. The northlight roof, particularly if the glass and soffit were adapted for the greatest degree of light diffusion, might still offer a better general solution in this country.

Mr. W. A. Allen pointed out that the northlight roof could not get over the fundamental disadvantage of shadow. The simple double pitch roof was not a good solution, due to glare; the monitor was freer from glare owing to the much smaller views of the sky given to the eye. They had discussed a suggestion for an asymmetrical monitor, a modification of the northlight roof in which some southlight was admitted to get over the problem of shadowing and to admit some sunlight, which people liked provided sharp shafts were avoided. He would not follow completely the American monitor; the Americans themselves had been very slow to master the technique of the monitor roof, and were far behind us in mastering the technique of computing sky factors and where the light was going, and they had a different climate; but he saw no valid criticism against the type of monitor which was a modification of a northlight roof with some southlight. It might be a British compromise.

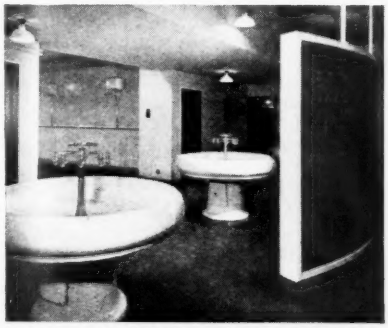
A speaker referred to the commendation of high tensile steels at the meeting on Structural Techniques, and asked whether there was likely to be a demand for them for structural purposes in future.

Mr. W. S. Atkins thought the demand should be considerable. He could not understand the lack of popularity of the high tensile steels, but it might be due partly to the fact that the building public did not know that they were there. Also, they might feel that for high tensile steel the sources of supply were more restricted, and so they feared delays in delivery; but that was only a passing phase. Where, however, there were heavy crane loads in a building, so that considerable energy had to be absorbed, the mass of the building might play an important part, and high tensile steel might not be the right answer,

Reception in the office building of Sievert's Cable Factory, Sundyberg, Sweden. Architect: Ture Wennerholm



Staircase in the Hoffman-La Roche Factory, Basel. Architect: Dr. R. Rohn



Lavatory at steel rolling mill for the Appleby-Frodingham Steel Co. Architect: Frederick Gibberd [*F*]

Entrance to an American factory. Architect: John S. Cromelin

because it did not provide the full mass inertia of the structure.

The President mentioned that the Government were setting up a Committee to popularize the use of high tensile steel.

Mr. W. S. Atkins, asked about the use of stainless steel for structures in order to prevent corrosion, said the expense would be too great if the stainless steels and high alloy steels were used for a structural frame. They did not appear to have any wide interest in the structural field, and the production of them was comparatively low. For small portions of structures affected, say, by acid fumes there were other alternatives, such as nickel-clad and chrome-clad steel, both more readily available.

A speaker said that no mention had been made in the Group on Heating and Ventilating of thermal losses through the floor of a building, a subject of great importance now that it was necessary to use so much concrete instead of timber.

Mr. Richard Eve pointed out that as the floor in most factories today was a solid floor the amount of heat lost through it was considerably less than that lost through the roof, particularly in one-storey structures. It was not easy to reduce it, because so many factors entered into the selection of a flooring material that to add a further complication in order to get good insulation might be going too far, having regard to the amount which was likely to be saved.

He would reply to Mr. Maule that they were not in competition for the same funds, but ventilation was the key problem, and, if it was not solved, such money as Mr. Maule might get would be spent on curative rather than preventive welfare. The heat losses through ventilation were the greatest, and the heat losses through the external walls came next.

Mr. W. A. Allen mentioned that noise reduction and thermal insulation could be conveniently combined. Few people would buy noise reduction, because it was difficult to set it off against reduced costs, but they could be persuaded to buy thermal insulation, because the savings could be readily shown. There was a technique due to Scandinavian research which consisted essentially of having some thin sheet material, such as plasterboard, which supported an absorbent material such as glass silk, and which was slotted or perforated with openings of about 10 per cent of the total area. That could be used in factories without too much trouble, with enormous acoustic efficiency as well as thermal efficiency.

Mr. Richard Eve said he looked with favour on the monitor roof, and particularly on the modification proposed by the Building Research Station, because it gave the possibility of introducing insulation for heat conservation. It was interesting to see the circle completed and heat, light and sound brought together.

A speaker asked whether any practical figures could be given on the use of double glazing, especially in view of the fact that in many factories there was a very large area of window space. He would like to know the U value of double glazing, and whether it was a practical proposition.

Mr. A. G. Sutton said that 'double glazing' could refer either to a double glazing unit manufactured in one piece or to two sheets of glass with a sealed air space in between. An air space of $\frac{3}{4}$ in. in width or more had a thermal resistance of about 1, and the thermal resistance decreased with decrease of width until at $\frac{1}{4}$ in. one got about 90 per cent of the result. A sealed space of $\frac{1}{4}$ in. between the two sheets of glass was therefore convenient, because anything bigger was clumsy. The production of double glazing units had not gone far in this country, but many experiments were being made by various firms.

Replying to a questioner who asked whether a stage had been reached where it was an advantage in industrial buildings to cut out windows in roofs and walls, **Mr. W. A. Allen** said the consensus of opinion was that where that was done the workpeople would not be very happy. They had consulted a number of American managers of factories working in day-time by artificial light, and they seemed happy about it but did not say what the workpeople thought of it. The American organization known as Albert Kahn, said they were satisfied that windowless factories were not a practical proposition and were not likely to be except in extreme circumstances, but a small amount of glass plus a very good artificial lighting could produce a reasonable illusion of good daylighting.

A speaker connected with a textile firm referred to the importance of eliminating noise in weaving sheds, and asked what the possibilities were in that direction.

Mr. H. G. Maule replied that in one instance it had been found that where earprotectors were provided for weavers there was an 8 per cent increase in production. Very often it did not matter what one did so long as one did something. He had in mind a case where the maintenance engineer was called away and left the job only half done, but when the workers returned they said, 'Isn't it lovely now?' It was the same with colour schemes; it was not so much the effect of the colour as the fact that the management were taking an interest which stimulated the workers. If one made a fuss about noise it might have an effect almost equal to a positive reduction.

Mr. W. A. Allen remarked that his first reaction to that statement was that psychology had many interesting aspects. His second was that noise in weaving sheds was one of the identifiable cases where a major deterioration of hearing occurred over a relatively short period, and it should therefore be dealt with. No one was satisfied that a full answer to the problem had been found, because a good deal of absorption was already present round the machines in the cloth which was being woven. The noise sources were so powerful that they probably fatigued the ear very quickly, and reverberation was hardly the problem which it was in many factories. Something could probably be done by screening the sources by local sound absorbents, which might be more valuable than scattering them all over the ceiling. If any of the competent laboratories were specifically requested to deal with the matter by an association of industry they would get down to it.

SUMMING-UP

Sir Percy Thomas, summing-up the Conference, said: I should like to refer to what seemed to me to be some of the high-lights of the Conference.

The first point which Lord Forrester made, and one which is most important from the point of view of the architects, is the need to understand the process which is going on inside the factory which we are designing. I know from my own experience that I should have been very ill-equipped to do the factory work which I am doing but for the fact that during the war I happened to be in control of production of munitions and gained a first-hand insight into the workings of engineering works and factories. I do not suggest that we have to have a war before we can study factory buildings or that budding Gilbert Scotts should be sent to a monastery for a couple of years, or that architects who want to study law courts and prison buildings should study the technique of acid baths; but we must thoroughly understand what is going on in the buildings which we design. Lord Forrester mentioned the reception of new staff, the position of clocking-on stations and other details vital in planning, and reminded us of very many factors apart from the factory itself where the services of the architect can be of value.

Mr. White emphasized three important points. One was the avoidance of tight planning. With regard to that, some comment was made in the discussion about standard factories in trading estates. My own view is that there is no such thing as a standard factory, because there is no such thing as a standard client. Although standard factories were built during the war for the sake of speed, I have never come across one yet which did not have to be altered, so that it seemed better to start from the beginning with the client's requirements, and also allow for extensions, which was a difficulty with most of our old factories. Mr. White also referred to teamwork, the importance of which I cannot over-emphasize. It was most welcome to hear that underlined today from the side of the engineers. I had to pinch myself to make sure that I was not dreaming when I found that in this Institute an engineer was defending the use of an architect on every kind of building. It shows what the war has done for us, or the wisdom which the years have brought! Mr. White also referred to 'second thoughts' on the part of the client, and the difficulties which this made for the architect. I should be content if my clients only had second thoughts; it is when they begin to have fifth or sixth thoughts that I get a little worried.

Mr. Cadbury gave us a most stimulating address, and drew attention to the value of the information which the Colour Council have placed at our disposal. I have seen a number of factories recently where the colour not only of walls and ceilings but of the machines themselves (pastel colours being used for the machines) has been most attractive and restful to the operators.

Lord Citrine and Sir John Hacking referred to the work of the British Electricity Authority, and Lord Citrine's address was an extraordinarily good and well-balanced statement, showing a willingness to view matters in the light of experience. Sir John Hacking's paper was also excellent.

With regard to what Mr. Kenneth Campbell said, I should like to emphasize that, however efficient a permanent architectural staff may be, there is something to be gained by calling in outside consultants, even if they have never done a building of that particular kind before. I do not know that Giles Scott ever designed a brewery before he did Guinness's or a power station before he did Battersea, and if hospital planning had been left in the hands of the old gang who did hospitals in my pupilage days, we should never have had the modern development in hospital planning which the competition system gave us by bringing in new men. The architect must break new ground, and it is part of our calling to be ready to take on new tasks and to face new problems all our lives.

Mr. Atkins gave a most admirable engineer's view on architecture, and I was particularly interested to hear an engineer criticizing cooling towers and an architect defending them. I think that Mr. Atkins was not discussing the actual design of the tower, but its out-of-scale relationship to the other buildings. Shell concrete construction was referred to by both Mr. Atkins and Mr. Mills, and it is a most interesting and fascinating type of construction, but personally I should like a few more years to roll by to find out what it really costs, and not what people say that it costs.

I have had some experience of monitor lighting in a very large building, and I suggest that we must not think simply of monitors as compared with pitched roofs, but think of them in relation to the type of building to be roofed. That applies, of course, to every form of roof; there is a right one for every purpose. In the particular job which I have in mind, the big building for the Steel Company of Wales, I think that it is suitable. One advantage is that vertical windows can be opened very much more easily than skylights, and you can pivot them and have them open which-

ever way the wind is blowing. They are also easy to clean from the flat roof outside.

Mr. Maule mentioned canteens, and this is a subject on which no two clients think alike. They all start with the democratic idea of everybody dining together, but you usually end up with having about four separate canteens. I do not think that it is due to the fact that the directors do not want to dine with the workers; it is the workers who do not want to dine with the directors! Another difficulty about canteens is that of estimating the numbers for whom to cater. If the rationing of food were to end, many more people would go home and almost all your canteens would be too big. In certain parts of the country, where the workers come from a distance, it is very difficult to estimate how many will bring bread and cheese with them. With many canteens the estimate made after careful thought by the management has proved too large or too small.

I agree that the windowless factory is dreadful for the workers, and that some windows are necessary if only to let people see the sky and the trees. The Nylon Spinners' factory was too large to be naturally lighted, and fluorescent lighting is used, but the whole of the walls are glazed, and had to be double-glazed for insulating purposes. No firm in this country would manufacture the fused glass with a cavity in it, and each pane would have to be specially made. The space apart of the glass is governed by two factors, (i) the section of the window frames into which the two sheets of glass are to be placed, and (ii) the absolute necessity of having the whole of the inner window to open, because no matter how tight you make it you will get condensation on the inside, and you must be able to clean the windows from time to time.

The President, in closing the Conference, thanked the visitors for their great interest, and particularly for their exchange of views. Architects had learnt a great deal from them, and he hoped had given them something in exchange. The speakers had been too numerous to thank them all by name, but they would appreciate the gratitude felt to them for their great contribution to the success of the Conference. The only speaker he would single out was Sir Percy Thomas, whom he would like to thank for his admirable summing-up. He would also like to thank from the Chair the organizers of the Exhibition, and particularly the staff, who had given so much time and energy to it.

It would have been realized from the Conference, which was chiefly concerned with industrial architecture, that industrial architecture could not be separated from architecture as a whole. Architecture was an art and a science, and something in which the artistic and the practical could never really be separated from each other, for the simple reason that efficiency was the guiding principle both of the art and of the science. That was what they had tried to demonstrate by the Conference and the Exhibition.

Microclimatology—Local Variations of Climate likely to affect the Design and Siting of Buildings

By G. Manley, M.A., M.Sc.

Read at a meeting of the R.I.B.A. Architectural Science Board on 12 April 1949. G. A. Jellicoe, M.T.P.I. [*F*] in the Chair

LOCAL CLIMATE as it affects the architect is largely a problem for the geographer; it means assembling and interpreting the data and taking account of the disposition of surface features such as relief, soil, slope, aspect and shelter. In this paper I shall largely refer to Great Britain, for it is here that familiar illustrations can be given of local differences of climate whose importance has long been recognized. Celia Fiennes, writing in 1702, commented on the sheltered and relaxing qualities of Bath. A century earlier Speed informed us that the vapours from the North Sea do much to dissolve the ice and snow of County Durham, a matter which no doubt has also become known to the planners of Peterlee.

Quantitative measurement of these local differences leads to the study of microclimatology. Unfortunately the scope of the study is not clearly defined. Botanists with some justice prefer to restrict the term to the discussion of the small but significant differences found within the zone occupied by the plant cover; within a ripening wheat field, for example, there are appreciable differences between the prevailing conditions of temperature and humidity at the level of the ears and beneath. Some details have recently been given by Paton. Others have for long used the term with regard to the local differences that we readily perceive to be associated with topography. The differences arising from variations of altitude, aspect and shelter due to relief come first to mind. The proximity of water bodies, the character of the soil and the extent to which it is drained, and the prevailing vegetation cover introduce notable modifications. Lastly, replacement of the vegetation by buildings gives rise to further modifications. It might be wise to describe all these effects under the term 'local climatology.' But we can also learn much from the more detailed work of the botanist whose technique and results may often be of interest to the architect engaged in the study of small spaces, or the problems of what happens at the surface of his materials. With these I shall not deal here. But I might take the opportunity to draw the attention of this Institute to a recent paper by Dr. C. E. P. Brooks on *Climate and the Deterioration of Materials* which opens up a field of study of increasing importance, especially to those engaged in work overseas.

I propose to review here the present state of knowledge of those local variations of climate which appear to be of sufficient dimensional importance to affect the disposition of buildings as a whole. We are all sufficiently aware of the general characteristics of the so-called temperate climate with which we have to deal and I shall merely remind you here that the south receives more bright sunshine than the north; that coasts receive about 10 per cent more bright sunshine than inland; and that the decreased sunshine in the north of Scotland is offset by the magnificent clarity of the air. We have a climate in which many introduced plants can more or less thrive, especially if they are given a little care. Similarly, to a layman such as myself, it looks as if a great many introduced forms of architecture can be used with success for much of the time. But just as, even in Cornwall, an exotic plant from time to time suffers damage in a spell of severe frost, by analogy the exotic forms of architecture give trouble through not being adapted to our occasional extremes. Hence it behoves us to take account of the information we have. Mr. J. F. Shipley, a past vice-president of the Royal Meteorological Society and a consulting engineer, has emphasized how needful it is for his colleagues to take care that they are provided with maxima and minima of various meteorological elements, rather than the averages with which meteorologists for their own purposes are more accustomed to work. As far as I can judge architects are in the same position; and in Britain in particular we are liable to be caught out by our occasional extremes.

At present our basic climatological information is provided by the results from about 330 stations of standardized daily observations collated by the Meteorological Office. Standardized methods of exposure of instruments have prevailed since about 1880. Hence in addition to the data provided by the present network of stations many other short series of observations are available from various parts of the country. Exceptional instances of this kind include the Ben Nevis Observatory, in operation from 1883-1904; from it we have our sole series of continuous data applicable to constructional problems on exposed mountain summits above 3,000 feet. Similarly, from a remarkably severe frost-hollow in S.E. England a detailed and surprising set of records has been provided by Mr. E. L. Hawke. Nevertheless, it is still true that for many parts of the kingdom, especially in Scotland, precise records are lacking and

probabilities must be estimated with due regard to local topography.

For the majority of us it is probable that the climatic manifestations we particularly wish to avoid are too much wind and too much fog. Sheltered valley sites inland may appear attractive but they are particularly subject to fog, and in many districts, not merely in towns, foggy weather is now made much more unpleasant by smoke. But as almost all the factors leading to the occurrence of low night minima also favour the formation of stagnant inland fogs, and as the varied incidence of night frost should be borne in mind for many other reasons of importance in planning, we may effectively observe the way in which local variations of climate arise by considering the occurrence of air temperatures below 32°.

Most of us know the general principles involved. For example, Falmouth Observatory has on the average only 13 nights a year with a minimum air temperature below 32°, whereas Cambridge has 70°, a figure broadly characteristic of the Midlands. In Scotland Rothesay averages 28°, whereas in upland valleys in southern Scotland nearly five times as many minima below 32° must be expected. The severity of frost under extreme conditions is correspondingly varied. In the small Outer Hebridean island of Barra the lowest temperature in a normal year is 29°, the lowest on record 21°; whereas inland locations are known in which minima of the order of 20° below zero have occurred.

When radiation from a well-exposed hill-top takes place on a clear evening, the air adjacent to the ground is cooled below the temperature of that lying adjacent at the same level; hence it gravitates downward, undercutting and displacing the air in the valley-bottoms. This is a commonplace; and about two nights out of five are sufficiently clear and quiet to allow marked local ponding to occur. But there are wide variations in the extent of the ponding and subsequent cooling of the air depending on local circumstances, for example, whether the downflow is from a narrow ridge or a broad upland. This is well illustrated in the West Midlands, where Malvern clearly benefits because it lies on a slope and the air drainage on calm clear nights is only from a narrow ridge. (See Table 1.)

Among hills rising to 500-600 ft. screened thermometers similarly exposed with regard to vegetation commonly show differences between ridge and valley of the order of 6° on clear nights (cf. Durham, Kent, and elsewhere).

Evidently the important point to bear in mind in any given location is the extent to which the air can stagnate and accumulate. Hence the most frost-free locations are found on small islands, such as Scilly; the slopes of headlands of small superficial area, such as Pendennis Head by Falmouth, are also very favoured. Falmouth Observatory itself records an annual average extreme minimum of 29°, but on the occasional frosty nights Pendennis Castle on the headland a mile away is generally a degree or so warmer. At the other end of Britain, for similar reasons, Cape Wrath is remarkably free from severe frost.

Lakes and broad rivers, so long as they are not frozen, also give rise to higher night minima near their banks. A source of warmth such as a lake ensures that on a cold night some slight stirring of the air is maintained. For further details reference may be made to a paper in the GEOGRAPHICAL JOURNAL 1944.

Studies of the minima recorded at coast resorts quickly show how greatly they are affected by local relief; further, the coastal zone of amelioration is often very narrow. A certain amount of amusement can be got by comparing the night minima derived from the various locations chosen by neighbouring resorts for their meteorological instruments; for example, Scarborough and Bridlington. Architects engaged in residential design on our more picturesque coasts will find such comparisons easy to make, and instructive. Further, as the evening flow of cool air down a slope is shallow, it can often be diverted by suitable arrangements of walls. Shelter-belts formed by hedges or trees are not always sufficient unless there is plenty of undergrowth; but that they can influence the incidence of low night minima was clearly shown some years ago by Professor Dobson when he was considering how to locate his fruit trees near Oxford. (See Diagram 1, page 319.)

Relief and the proximity of water-bodies are important, but the incidence of low night minima depends on several other factors. The chief of these is the character of the soil. A coarse well-drained sandy soil containing a good deal of air is a much worse conductor than a damp clay which contains less air; the principles involved have been clearly expressed by Professor Brunt. (See Table 2.) Hence during a clear radiation night the temperature of the surface of the sand falls much lower, as heat is conducted more slowly from the subsoil; and if the night is quiet, the air temperature above the ground is also lower than over a soil containing less air. Hence, if the soil is wet, i.e., the air within it is largely replaced by water, it is a better conductor than when it is dry. But he emphasizes that although the extremes of temperature are less marked it does not follow that an undrained soil is best to live on; such a soil is liable to keep the temperature lower during the day owing to evaporation of surface water. Well-drained clay might be better but has the disadvantage that it tends to crack and disturb foundations during drought; hence he suggests the best choice for a site would be a medium loam.

It may be added that partly due to its air content a deep fresh snow-cover is also a very poor conductor; further, it is a very good radiator. Hence we invariably find that the most extreme cold occurs in places where all the factors combine; a deep cold air supply, a clear calm night, a deep fresh snow cover generally mean that in any normal frost-hollow the difference of temperature between valley bottom and neighbouring upland ridge will be nearly three times as great as that which might be expected if there were no snow. This estimate is based on comparisons near Durham. (See Diagram 2.)

It is possible to summarize in a diagram the annual course of the average extreme monthly minima from stations whose exposure is standardized over short grass in

TABLE 1

NIGHT MINIMA IN WORCESTERSHIRE

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	
PERDISWELL, 1926-1948: AVERAGE FOR *ALL* NIGHTS (°F.) (includes clear, calm, windy, cloudy, overcast) :													
94 ft. 2 miles N.E. of Worcester; 1½ m. from Severn and 50 ft. above. Parkland with orchards.	33.0	33.7	34.8	39.1	43.0	48.7	52.8	51.8	48.0	42.0	38.2	34.6	
MALVERN *exceeds* Perdiswell by : 377 ft., E. slope of Malvern Hills. 22 years' record.	1.5	1.4	2.5	2.1	2.2	2.3	2.5	2.8	3.2	3.1	2.5	1.7	
DROITWICH *below* Perdiswell by : 106 ft. 5 m. N.E. of Perdiswell in small tributary valley near lowest part. 10 years' data.	0.9	0.8	0.9	1.1	1.3	1.4	0.9	1.1	0.9	0.7	0.9	1.1	
DIFFERENCES between the AVERAGE EXTREME MINIMA: representative of prevailing differences on clear, calm nights. Smoothed to whole degrees.													
DROITWICH (10 years) (1939-48) Average Extremes:	14	17	19	26	28	36.5	39	38.5	31.5	27	24	19	
PERDISWELL *exceeds* Droitwich by:	2	2	2	2	2	2	3	2	2	1	2	2	(°F., 10 years record)
MALVERN *exceeds* Perdiswell by:	3	4	4	6	6	6	7	7	9	7	6	4	(°F., 22 years record)

The effect of the minor frost-hollow represented by '*Droitwich*' is consistent throughout the year. *Bromyard*, 393 ft., although higher than Malvern, is a valley-bottom station in the same district, where the minima on clear nights are similar to those at Perdiswell. The extremely localized incidence of low night temperatures in undulating country will be evident.

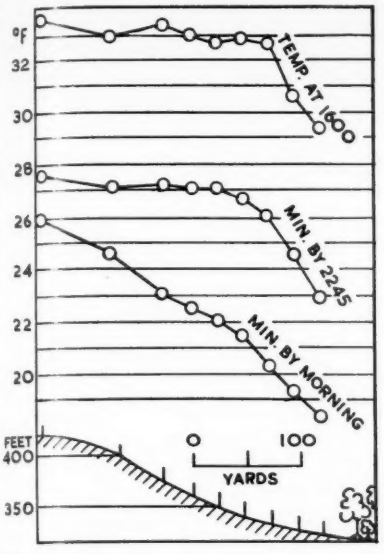


Diagram 1

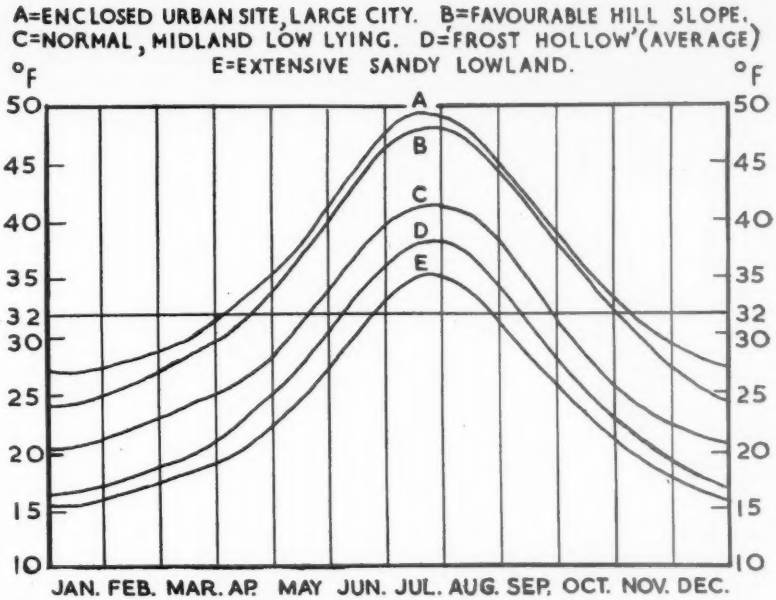


Diagram 2

various situations. From this diagram it will be evident that in England the average length of the frost-free season and hence the gardening prospects can vary to a remarkable extent with choice of location. But the minimum temperature of the air on a clear night is also markedly affected by the nature of the vegetation cover. In particular, on a calm clear night minima are lowest over long coarse grass. An extensive series of experiments by Cornford showed that the difference of the minimum temperature over bare soil from that over rough coarse grass might be as much as 6°; a difference of the same order as that arising from relief. On airfields it has often been noted that evening mist first forms on the rough grass hollows. Long coarse grass presents a greater radiating surface to the sky; radiation also cools the grass stems more quickly than can be offset by conduction from below. Also more air is trapped and cooled between the blades than if the ground is bare. It follows that in the absence of a snow-cover the worst frost-hollows are likely to be found where for example a valley is surrounded by bare grass slopes and has a negligible gradient, and preferably no stream at the bottom, also a floor composed of sand or a light sandy loam. These conditions are well shown in the Rickmansworth frost-hollow of which details have been given by Hawke. Near Edinburgh the broad upland valley in which West Linton lies, at the foot of the Pentlands, has long been known for its frosty propensities, and it has recorded the lowest July minimum so far known in Britain at inhabited levels, namely 28°. (see Table 3, page 320.)

Exceptional cold is, however, generally confined to a very shallow layer of air. For example, at Kew Observatory minimum temperatures 17 ft. above the lawn are often 5° warmer than those at the standard height (4 ft.). Hence it appears that the problem of keeping a house warm in a sheltered frosty valley can largely be solved by taking care of the ground floor.

Some notes from a recent article by Kraus may be mentioned here. He points out that differences of temperature alone can cause pressure differences up to 0.3 mb. between the inside and outside of a house; but a fluctuation of the wind of 12 m.p.h. in a gust causes pressure variations up to 2 mb. It is thus evident that exposure to wind will lead to more effective ventilation of the inside and presumably cooling; he reports a German opinion that a small detached house will use up to 40 per cent. more fuel than a house of similar size in a continuous row. With regard to conduction-loss from the outside walls it may be added that the rate of loss of heat by a body exposed to a strong wind at a temperature of 30° is six times as great as that in still air at +10°. The greatest extreme of 'sensible cold' we experience at inhabited levels in Britain is probably that arising from a strong wind (30 m.p.h.) with a temperature between 15° and 20°; such a wind may perhaps occur once in a century, and is about equal in cooling power to a light breeze at —20°.

Can I plead here for the R.I.B.A. to use its influence in regard to location of pipes? In a standard small house at Cambridge the temperature within an exposed bedroom fell to 23° in 1947; the pipes were neatly laid round the outside wall.

It might be of interest to mention the extremes of air temperature on record in Britain as many town-dwellers are inclined to forget what our climate is capable of. The upper limit, inland, ranges from 90° in N. Scotland to 100° or thereabouts in S.E. England. The lower limit ranges from zero in Devonshire and most of Ireland to 10° or more below zero in the Weald and over a great part of the valleys of the Midlands and North; while about 20° below zero appears to be the lower limit for sheltered upland valleys in Scotland. But the slopes of hills at intermediate levels largely escape such extremes, especially if they face south; although it is necessary to recall the effects of ponding against shelterbelts, previously mentioned. The variations in frequency and severity of frost are so great that it is scarcely practicable as yet to provide satisfactory maps of these elements for Britain, unlike the U.S.A.

Penetration of frost into the ground in the absence of a snow-cover may be of the utmost importance to water engineers; it was extensively discussed after the exceptional February of 1895 when the ground was in places frozen more than three feet deep. Allowance should be made for this even on our westward coasts, where the snowfall in the lee of the hills is often, though not invariably, small in amount (e.g., in Galloway).

The factors governing the incidence of low minimum temperatures are also in

TABLE 2

EXAMPLES OF MAXIMA AND MINIMA AT LYNFORD AND CAMBRIDGE, MAY 1941

	May 4th	8th	9th	10th	11th	16th	18th
Lynford (99 ft.)	59	50	53	54	58	60	69
	15	18	19	17	15	24	27
Cambridge (78 ft.)	57	48	49	52	61	60	68
(University Farm)	28	30	29	29	27	31	38

TABLE 3

PERIOD 1930-1942—MEAN MINIMUM TEMPERATURE

	January	July
RICKMANSWORTH Frost-Hollow		
(177 ft.) Stevenson screen		
Average, all nights	27.5	47.5
KEW OBSERVATORY		
(18 ft.) Stevenson screen	33.9	54.3
Difference	6.4	6.8

As many nights are overcast or windy, and on such nights the minima will differ only slightly, it is evident that on clear nights differences of 10°-15° can be expected.

(*Based on E. L. Hawke's paper in Q.J. Roy. Met. S. for* 1944.)

large measure those which govern the development and localization of radiation fog. Hence we find that the so-called sheltered valley is almost the worst place to select for a home; all our inland valleys are foggy, especially in autumn and early winter. At that season fog formed overnight may persist all day; radiation from above fails to penetrate a thick fog sufficiently to warm up the underlying air. Hence within such a fog the air temperature remains low and above it the air is markedly warmer; under such conditions as we all know (that is, of inversion of the lapse rate) the air cannot rise out of the layer beneath the inversion. If smoke is rising from a number of chimneys below the inversion, it cannot escape upward; it will merely spread out horizontally, forming the unpleasant gloomy 'lid' we know so well in our cities, and giving the fog its acrid quality and brownish colour. Given a light wind, the smoke will drift along beneath the inversion-layer, giving sufficiently poor visibility to be called 'fog' for many miles to leeward of our cities. Anyone who drives up the Great North Road in quiet winter weather quickly learns to appreciate the unpleasant stretch from Doncaster to Wetherby, downhill and to the lee of the West Riding. One of the latest and worst instances befell last November. The smoke fog was particularly acrid and unpleasant in Upper Wharfedale 20-30 miles north-west of Leeds; but with a light south to south-east wind a great part of the West Riding smoke from the thirty miles of coalfield south-east of Leeds as well as from Leeds itself was carried northward far into the Pennine valleys. Temperature remained in the low thirties, while at 2,000 ft. on the Pennine summits 50° was exceeded.

No exact limit can be set to the depth of surface inversions. There is, however, a tendency in quiet weather for minor nocturnal inversions to develop approximately at the level of the hills bounding each valley; for example, in the central part of County Durham in conformity with the night minima it is not unusual to find that the smoke-haze prevails in the morning up to about 600 ft., the height of the hills on either side. Minor wreaths of smoke are found at the level of lower hills within the valley. Light surface winds are canalized by the local relief, hence particularly smoky morning fogs are likely to be found in places where the flow of air on a quiet clear night tends to set across a city from a particular direction. Hunslet at the bottom of Leeds is a case in point. Some recent observations lead to the suggestion that on quiet winter nights the smoke of Manchester tends more often to be carried north than otherwise; the marked development of the better suburbs on the low ground to the south, rather than the high ground to the north which was once fashionable, supports this.

In the planning of industrial areas likely to produce smoke and other forms of pollution during quiet weather or at night careful attention should be paid to the local topography. If possible the emission of noxious smoke should be confined to periods when the air is turbulent and convection is active. An excessively unpleasant atmosphere used to prevail at night to the north-east of Billingham attributable to the slight set of the land breeze towards the mouth of the Tees in quiet weather; for all I know it is still there. Coastal features affect the movement of the surface air very noticeably; by day the normal depth of the surface sea-breeze is of the order of 500 to 1,000 ft., so that smoke from a large coastal town rises to the top of the sea-breeze layer and is then carried inland in the form of an over-lying haze for some miles. The distance to which the sea-breeze penetrates owes much to the difference of temperatures between the sea surface and places inland; these differences tend to be more marked on our north-east coast. Where hills several hundred feet high are found near the coast, the sea-breeze is again to some extent canalized, as for example round Edinburgh. With a light northerly wind blowing I have stood on a hill-top just to the west of Durham from which the visibility due north exceeded 50 miles; due east, the brassy smoke haze from Tyneside canalized along the middle Wear valley cut down the visibility to less than two miles. With lighter winds local air movement is noticeably affected by the decreased friction over broad estuaries; in the Mersey estuary the high proportion of N.W. and S.E. breezes was recognized by 18th century meteorologists, and was doubtless well understood in the days of sail. The localized drift of surface smoke beneath shallow inversion layers is very frequent; but as a general rule such inversions do not persist below about 3,000 ft. when the wind exceeds 7 to 10 m.p.h.

Recent studies of the spread of atmospheric pollution in and around Leicester have clearly shown what happens with stronger and more turbulent winds. Local relief and the trend of valleys are no longer important. Largely due to turbulent mixing the smoke is carried away outward and upward, and rapidly diffused through a greater depth of air. At the surface pollution is worst near the source, immediately around the centre of a city; in the suburbs the surface pollution and the surface visibility may be very little worse to leeward than to windward. But the smoke-cloud has been spread out fan-wise vertically and to some extent horizontally, and this is evident from the cutting down of the ultra-violet component of the daylight on the lee side. Without doubt this explains the perceptible 'yellowness' of the Southern Pennine atmosphere of which artists have been known to complain, even when a fresh south-west or west wind is blowing in which the visibility is normally good. During the war it was said that the West Riding squadron of the R.A.F. learnt to smell their way home from the Yorkshire coast. It is even possible that the rather low duration of 'bright sunshine' recorded at York owes something to the frequent high-level smoke haze, although the surface air is reasonably clean. According to the Leicester Report, the effect of the size of a town on the production of smoke is roughly proportional to the square root of the population; hence London is still the biggest offender. (Cf. photographs by J. S. Forrest and B. R. Goodfellow, 'Weather,' 1947.)

The varying incidence of sea and land breeze effects, with the slight changes in skin-stimulus to which they give rise, probably goes some way towards the explanation of the so called 'bracing' or 'relaxing' qualities of our resorts. Further inland, from the point of view of residence, well-drained south slopes offer advantages all over the country; one may mention Hampstead, Shotover Hill near Oxford, Alderley Edge near Manchester, and other local patches such as the greensand ridge above Ampthill. Brunt has reminded us that the temperature 1½ in. below the surface of the soil may be up to 15° higher on a south slope than on a shady north slope; and it will have a lower moisture content and so become easier to work.

Nearer the coast, however, some south slopes may be too windy for comfort; and for many purposes others may be too dry. By general consent excessive windiness is also to be avoided. From the constructional standpoint it must be remembered that although the average strength of the wind inland is considerably less than on coasts or exposed uplands, owing to friction, yet in open country the strength of occasional gusts can be almost as great, and it is the gusts that do the damage. In March 1947 Mildenhall recorded a gust of 98 m.p.h. which is not far below the maxima recorded at various coastal stations, 108 to 112 m.p.h. Over extensive built-up areas, however, the wind velocity is further cut down by friction. South Kensington's record gust in 25 years was of 70 m.p.h. Kraus has quoted an American study which goes to show that in the centre of Detroit, at a height of 259 ft., the mean wind velocity taken over the whole year had diminished by 1930 to about six-tenths of what it was in 1909, as a result of the great increase in the built-up area. Some further consequences of diminished wind speed with

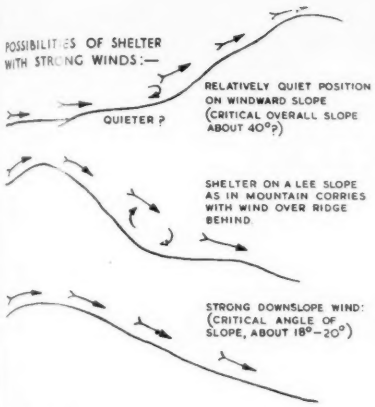

POSSIBILITIES OF SHELTER WITH STRONG WINDS:—
RELATIVELY QUIET POSITION ON WINDWARD SLOPE (CRITICAL OVERALL SLOPE ABOUT 40°?)
QUIETER ?
SHELTER ON A LEE SLOPE AS IN MOUNTAIN CORRIES WITH WIND OVER RIDGE BEHIND.
STRONG DOWNSLOPE WIND: (CRITICAL ANGLE OF SLOPE, ABOUT 18°–20°)

Diagram 3

regard to the climate of towns will be mentioned later. (See diagram 3.)

Around our coasts the minor effects of topography can be easily studied by reference to the trees. Slopes which appear to face the wind are not always excessively windy, neither are the slopes on the lee side free from gusts. I have in mind the interesting suntrap near Llandudno selected by the monks who built Gogarth Abbey (and very sensibly, too) where even with a stormy south-wester blowing little wind is felt. On the other hand, exposure on a lee slope may often result in surprisingly stormy winds in cold weather. Much depends on the slope; and a great deal can be done with the aid of shelter belts or walls. The effects of the local 'helm wind' on the Crossfell escarpment appear to be typical.

It may be mentioned here that if air is flowing across a hill or mountain range the flow appears to be affected up to about three times the height of the obstacle. This figure, I believe, has been used in regard to the design of power station chimneys, which should be high enough for the flow of air to be free of impediment arising from the presence of the buildings below.

For obvious reasons the speed of the air over an exposed smooth hill-top is slightly greater, as a rule, than that obtaining in the free air at the same level. From Dun Fell, a smooth summit in the N. Pennines, I formed the opinion that the local wind speed is in general about one-fifth greater than it would otherwise be. But these are also aerodynamical problems; and the architect engaged in problems of design for an exposed summit or a cliff-top can find plenty of advisers in the meteorological world. From the N. Pennines it appears that the local wind speed on exposed summits at 2,000 ft. is of the same order as that prevailing in the Shetlands at sea level, so that no exceptional problems of design should arise.

The variety of stations and local exposures in Britain is now sufficient to provide a guide to the possibilities of almost any site. Variations in the amount and intensity of rainfall, frequency of thunderstorms and the like may be important in design; and here it is enough to say that Dr. Glasspoole and his colleagues of the British Rainfall Organization have striven for many years to assemble the data. Particular studies have been made of long continued rains, as in S.E. Scotland in 1948, and of catastrophic floods such as the Louth disaster in 1924.

Snowfall and its incidence in Britain has not been so much studied; for long there were difficulties in standardizing observations. Secondly, London and the South are inclined to forget that in northern England and Scotland snow must annually be reckoned with at all higher levels. Sufficient material is now available to provide maps of average frequency of snowfall and snow-cover. With regard to variability it is broadly true that if N be the average number of days with snow-cover at any level, up to 1,500 ft. the maximum will be N+50 or thereabouts. The range of possibilities in exceptional months such as May or September can be stated quite well. Architects are, however, more likely to be interested in quantity of accumulation. Quantity of snowfall is more likely to occur, for orographic reasons, on all our eastward-facing uplands, especially in high-lying valleys such as upper Weardale. Some examples may be quoted of accumulation; 42 in. at Durham in February 1941 resulted from 56 hours' continuous fall, and damage in Newcastle was widespread; 30 in. fell in Cardiff in January 1945; a similar amount in South Lancashire in January 1940. Among the areas where exceptional depths of snow have not been recorded appear to be the Fenland and some of the lower parts of Gloucestershire; e.g., two feet (in 1836) appears to be the upper limit for eastern Cambridgeshire. Nevertheless, while heavy falls are more frequent on the eastern slopes of our uplands, practically no part of Britain has failed to record upwards of a foot of snow at some time, although the intervals may be long in the far south-west.

From the point of view of transport serious difficulties might be avoided in many upland areas if more care were put into the siting and planning of main roads; in Scotland some attention has been paid to this, and I surmise that the Romans knew about it. Drift blockage on upland roads might be greatly lessened by putting the walls further from the road, or using wire fences with small drift-barriers some distance from the road, which in turn should lie on a small embankment. This should effectively limit the accumulation to that which can be dealt with by a simple snow-plough; 12 in. or thereabouts.

But in our climate the temperature during a snowfall often fluctuates closely on either side of 32°, in which case the development of pot-holed ice on roads subject to heavy traffic can only be avoided by immediate and continued use of snow-ploughs by night or day, whenever snow is falling heavily. The increase in frequency of snow and snow-cover with altitude is very rapid; broadly it may be said that snowfall is a sufficiently serious problem to be regularly taken into account anywhere above the 500 ft. level, especially north of the Trent and east of a line from Crewe to Fort William, including Denbighshire.

The effect of extension of building on local climate.

The extent to which the operations of the architect and his friend the builder modify our climate is worthy of remark. A house or wall, once erected, affects the speed of the wind for some distance round it, depending on its height and other characteristics. Large numbers of buildings, as we have already seen, increase the friction and a layer of quieter air is to be found for some distance above. The cumulative effect of extensive building in a country such as ours is to raise the average temperature; this is also because the sun moves round at an angle which means that the surfaces of walls absorb by day a good deal of radiation and give it out again to the adjacent air in the evening and at night. Hence it is especially on quiet summer evenings following a sunny day that one notices the warmth of the air between and among the buildings of a town. As a result, on clear nights there is a greater difference in summer than in winter between the minimum temperatures inside the built-up area and outside, in spite of the fact that the winter nights are longer.

Much depends on the size of the spaces in which thermometers are exposed. Narrow streets and squares are often sufficiently shaded to give lower maxima on hot summer days than in the parks. Urban temperature records therefore often provide scope for individual discussion. But English cities provide several examples of stations in enclosed built-up areas which give a good guide to the general nature of the effects likely to arise from the erection of buildings. The effects with regard to night minima are well shown by observations within and outside Manchester. (See Table 4.)

Towns feel warmer than the country at almost all times because of the diminished effect of wind due to shelter and the effects of friction; this explains why even within a sizeable park in our larger cities the minima tend to be higher than in the surrounding country. Further there is some radiation from artificially-heated buildings; in winter this sets up minor air movements sufficient to check the fall of temperature at ground level. These minor air movements play their part in slightly decreasing the density of winter fogs at street level by comparison with the parks. Probably something must be allowed for the fact that streets drain more quickly, hence after rain cooling of the surface by evaporation takes place for a shorter time. The cumulative effects with regard to the annual average number of days with snow and snow-cover are quite marked; for example snow is observed to fall in Central London on about two-thirds of the number of days that are noted at the same level in the outer suburbs.

From what has been said it will be evident that there is probably an 'optimum size' for an enclosed garden surrounded by walls of given height, providing maximum radiation

TABLE 4

MANCHESTER—MINIMUM TEMPERATURES

Smoothed values of the differences to be expected on quiet clear cold nights between a thickly built-up area and rural sites outside the city :

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	
7	6	6	6	6	8	10	10	10	9	7	7	(°F.)

Stations: Oldham Road (191 ft.). Enclosed space among buildings, 60×40 yds.
Barton (70 ft.). Airfield west of city: On Irwell-Mersey flats.
Based on 7-10 years' records of monthly extremes.
Summer nights are relatively warmer in the city than winter nights.
(Westminster, St. James Park, also shows this.) *Based on Geogr. Journ.* **103**, 1944.

and minimum shade. For centuries English gardeners have been accustomed to provide local climatic amelioration by erecting walled gardens in sheltered places, and preferably on slopes; incidentally, the wall at the bottom of the slope should be lower, or have holes in it. Now we are approaching the stage when it should be possible to predict the effect on temperature of the establishment of walls, houses or towns in given locations as well as the effect on air movement. For the time being useful estimates can undoubtedly be made by careful comparison of some of our existing urban records, past and present.

It will readily be recognized that in the siting of buildings and planning of towns a great many variables must be taken into account. The findings of a variety of scientists with different aims must be assembled and an opinion based on the best possible interpretation of all the data must be given. When it is a question of interpreting whatever scattered data are available with regard to the many factors involved in any particular site it seems to me that the geographer's attitude is likely to be valuable; it has certainly been found useful in recent town-planning studies and the functions of the regional universities in this respect should not be overlooked. Not all published climatological maps are equally reliable and some criticism must be exercised in their selection.

I have not done more here than to point out some of the factors governing local climate. The sources of information are many; observations from a very wide network of past and present stations are known to the Climatological Section of the Meteorological Office. Ever since its foundation in 1850 many papers on aspects of British climate have appeared in the Quarterly Journal of the Royal Meteorological Society; and even earlier keen amateurs had drawn attention to such things as the frequency with which Malvern lies above the valley fogs and had measured the rise of temperature with height. Many of the effects I have described have long been known to us all, but quantitative estimates can now be made and advice given with regard to almost any site, even in the remoter Scottish Highlands. The same general principles are applicable overseas, in places where the penalties resulting from the neglect of local climatic interpretation are greater.

Further work however appears to be needed with regard to the optimum size and spacing of buildings in a climate such as ours. The rate of weathering under conditions of heat and moisture has attracted much attention. In our climate as we have seen the frequency with which the air temperature crosses the freezing point varies greatly and when combined with the frequency of strong wind, must also have important consequences in regard to weathering, especially at high levels. We might also learn more about the best way of taking advantage of slopes in exposed districts. Lastly there arises the perennial question whether our climate shows any significant trend, or differs materially from that experienced by our ancestors. The differences, if any, are very slight; and I should like to wind up by suggesting that the defect of our climate lies in the irregularity and localized character of extremes. Have we not too often neglected that technical accomplishment which renders the Scandinavian house more comfortable, remembering the long years when we have made do with the cramped and smoky cottage of the Celtic fringe?

DISCUSSION

Dr. J. Glasspoole, M.Sc., Ph.D.: There is already a large amount of climatological data, of averages, extremes and frequencies, and the fundamental problem in local climatology is to extend that information in space. To make the fullest use of existing records it is necessary to appreciate exactly what we aim at recording, the accuracy of the data, the type of exposures, and the localities these records represent; to appreciate some of our difficulties in handling the data; and to appreciate where progress is possible, and where we can hold out no hope of defining local variations of climate until we have more records.

Intense falls of rain, of importance to drainage problems, are extremely local, but we can see little difference from place to place in the probable long-term frequency of intense rains of short duration. That does not mean that there are no differences, but merely that many more records covering long periods would be necessary to state definitely whether one locality is more prone to intense rains than an adjoining area.

With all climatological elements it is important to appreciate what is measured. Thus in the case of sunshine, we aim at recording the duration of bright sunshine as recorded by a Campbell Stokes recorder in an open situation. Local variations can be determined by estimating the amount of sky cut off by obstructions. The computations are simple enough, although tedious, because the path of the sun in the sky changes relatively day by day throughout the year. This local variation of exposure to the sun is of importance from many aspects, having effects on the local temperature variations of the ground, especially with different slopes, and of course on the different sides of buildings.

Local variations of climate were being studied from a number of aspects and he hoped that architects would state what further information they needed.

Miss E. M. Frisby, B.A., F.R.G.S.: Although only a geographer, I have had the privilege during the last few months of working with one or two architects on new town sites. We have found in our practical work that it does not help the architect in the slightest to present him with a mass of facts and figures for a site which may be near his own, but which is not his own site, because he is still left in the air, not knowing how to deal with the ground that is actually under his feet.

The first thing that we found it necessary to do, therefore, was to understand all the oddities of both sites, and then make the figures for the one site directly applicable to the other.

Then another point; there are masses of information, but I should think that there is not another country in the world where so much work has been done and then hidden away.

The third point is that when you have facts and figures which are directly applicable to his job, you have to interpret climate into something that the architect understands. He does not want to be told about wind force if you can interpret wind force in terms of shelter and do the actual placing of trees and so on for him on his plan. That is the sort of thing I think the functional climatologist has to tackle next.

Dr. C. E. P. Brooks, I.S.O., D.Sc. (Meteorological Office, Air Ministry): I should like to emphasize what the lecturer has said about smoke. I have often felt that, apart from very local phenomena such as frost hollows, smoke is one of the most important climatological factors in this country. When you consider that nine-tenths of the dirt and dust and soot deposited in London comes from the burning of coal you realize what a very great problem that is. With a south-west wind, the smoke of London can be traced as far as Norwich. That is a problem which meteorologists can point to, but it is for the architects to solve it by getting rid of the smoke.

Mr. David Hibbert, F.R.Met.S.: I have found that one of the chief difficulties in getting architects to take a real interest in microclimatology is that of organization and administration. We have had inquiries for information which have come through as long as eighteen months or two years after the sites have been chosen; the climatologist, and particularly the microclimatologist, should be called in at the very first stage, when the Minister of Town and Country Planning is choosing sites.

Another point is the question of sound in microclimatology. Sound is one thing which architects are greatly perturbed about, particularly in new towns and in areas where they are building close to railway lines and

main roads. I think that there the advice of a microclimatologist can be very valuable, because, after all, it is his job to show the architect how to alter the local climate to fit the functional needs of the buildings to be designed. Sound is one of the important questions to be considered there, from the point of view of providing shelter against it by trees and so on.

Mr. R. Eve (B.R.S.) [*A*]: Could Professor Manley elaborate a little on the suggestion I think he made that we should design for a temperature round about —20 degrees F. as a minimum. We usually take a temperature difference of about 30 degrees between inside and outside, and I should like to find out what his view is on the minimum temperature.

Prof. G. Manley: I think I am right in saying that —20 degrees F. is, so far as we can judge, confined to the bottom parts of a considerable number of Scottish upland valleys, and —10 degrees F. is probably a more reasonable figure, but it seems to me that that opens up a problem which is ultimately a physical problem. If, therefore, you design a building to retain its warmth in a really cutting easterly wind you will probably cover all the contingencies which may arise, through exceedingly low temperature. I suspect that there are some problems in physics and in the insulation of your walls involved there.

Mr. W. H. Hogg, M.Sc. (Meteorological Office, Harrow): I should like to give one example of the way in which local topography can affect the amount of incoming radiation. Let us take our own latitude of 52 N, and consider first a horizontal slope and secondly a rather steep slope of, say, 1 in 5 to the S.S.E. Let us consider the angle of inclination of the sun's rays on those two slopes. First of all, take mid-summer. In these latitudes, the maximum altitude of the sun is about 61 degrees on horizontal ground. If we consider the sloping ground, the angle will be 72 degrees, which is quite a big difference. In mid-winter the effects are relatively even more marked, because of the lower altitude of the sun, and for several hours of the day the altitude of the sun on the sloping ground will be some 8 degrees or more above the angle of inclination to the horizontal ground. If we consider only the altitude of the sun, the effect of the sloping ground is to change the altitude from 52 N. to 41 N., which means quite a long distance—about 750 miles further south. That does not mean that the temperature of this sloping ground will be the same as the temperature at a place in 41 N., but I think that it does lead us to expect real and substantial differences between these slopes, and one of the things which we must find out is just how great these differences are. That is one of the things which we are hoping to find out by means of microclimatology.

I should like to mention one other small point on the question of incoming radiation. As you all know from common experience, the diurnal variation of temperature gives a maximum at round about 2 or 3 o'clock in the afternoon, and not at noon; and therefore a slope which is rather west of south is warmer than one which faces due south.

Mr. G. B. Oddie [*A*]: There are various standards of heat insulation laid down in Government-sponsored reports which depend on the calculation of the U-value; in this calculation it is necessary to take into account whether the conditions in which the building is placed are severe or medium or mild. One of the British Standard Codes of Practice attempts a definition of those terms, but it is not a very precise definition. For instance, I think that 'severe' is defined as being at the top of a high, windy slope. My opinion of what is a high, windy slope may be completely different from somebody else's. That is another thing that the architect wants to find out from a study of local variations in climate.

I should like to draw attention to one other thing, because it is of topical interest: the lay-out of towns or estates. Le Play had a theory that a mediaeval town was largely laid out as a result if not of careful study at any rate of instinctive appreciation of local variations in climate, so that the houses and streets were laid out to give adequate shelter from prevailing winds and so on. That instinctive knowledge of local conditions was obtainable when the community which was doing the building had a long experience of the particular locality.

The people who are doing the building today have no such experience. There are very few people who can claim to be members of a family which has lived in a place for more than three generations. If the knowledge of local variations of climate or microclimatology were more widely disseminated and better understood by those whose job it is to lay out these estates, I think that the result would be much less barren and mediocre than it unfortunately so often is.

The Chairman: If you read Repton you find that when he was laying out an estate he placed the house not at the bottom of a valley but slightly up the slope, not only because it was healthier but because it was manifestly so. The art of architecture arises basically from these points. First of all we have to know—what once was known by experience—what is the right answer. That is what basically creates our art, and there is no better place to study that subject than in the writings of the 18th century, where we see how the art of the architects of that day arose from their experience and instinct, which enabled them to put a building in the right place.

Professor Manley: I agree wholeheartedly with the view Miss Frisby has expressed, and it seems to me to apply in many fields. We want interpreters, as it were, and go-betweens and channels of communication between the different foci of knowledge. I am very impressed by the way in which in the Scandinavian countries, for instance, the different scientific societies meet together to interchange ideas.

I was struck by what has been said about the sense of taste displayed in the 18th century. In the Lake District a characteristic defence against rain has been perfected by simply covering the chimney with a couple of tilted slates, giving an admirable draught and no rain down the chimney. That seems a direct response to local building conditions which they had the wit and taste to provide in the 18th century.

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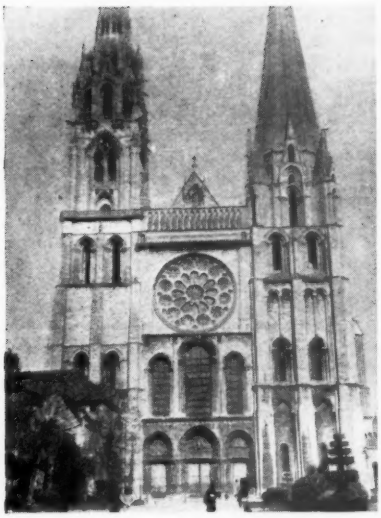
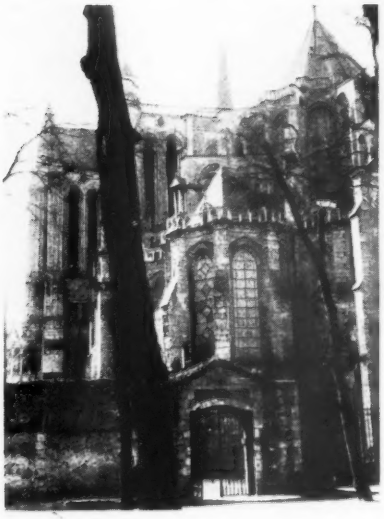
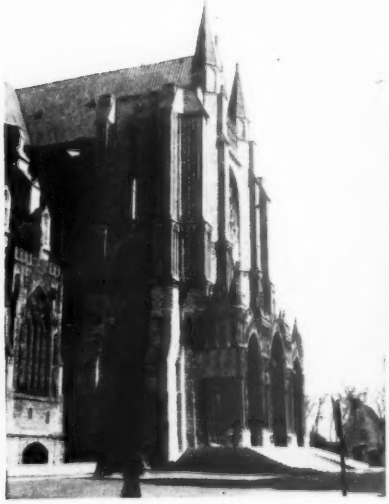
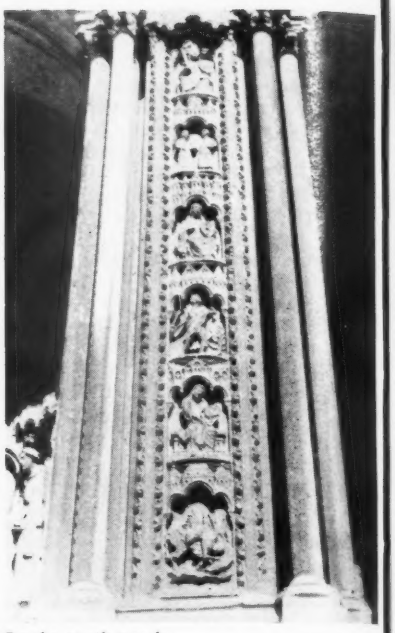






On the west front

On the north porch



On the south porch

The Sculptures of Chartres Cathedral

By Rachel Caro [*A*], A.M.T.P.I.

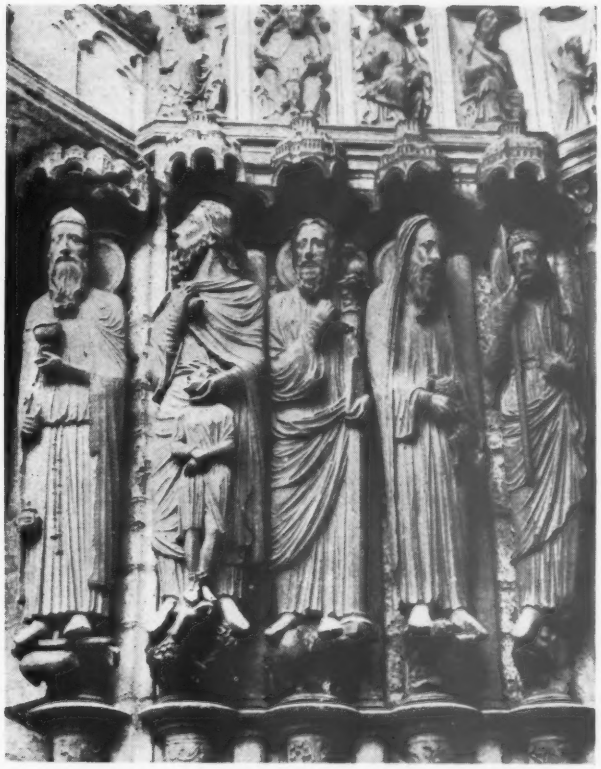
ONE REVISITS Chartres Cathedral with some little fear, but it is gratifying to see that although this town has not completely missed the ravages of war, the sculpture, and for that matter the whole of the cathedral, has survived without a scar.

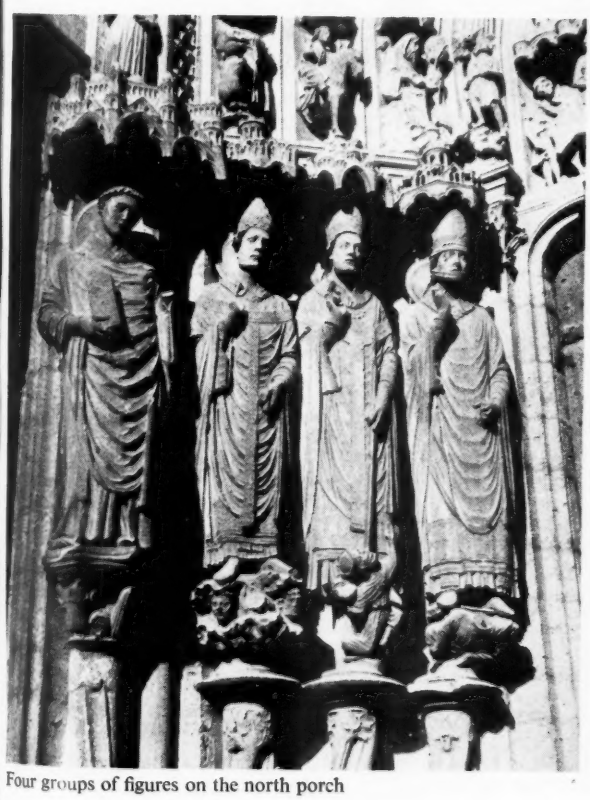
The sculpture, like the architecture of any cathedral of this period, shows definite signs of having been the work of many craftsmen of successive generations. There can be no doubt that there was some great school of sculpture, as there was of stained glass, in Chartres in mediæval times. While the stone of Berchers, close by, was completely suitable for carving, the quantity and quality of the work shows with what spirit it was undertaken.

The main entrance, 'portail-royal', on the west front has perhaps the most beautiful and oldest collection of figures, dating back to the Romanesque period of the 12th century. This is the time of the old church when these three entrances had a porch. More truly Gothic are the figures and animals on and around the south and north porches, but those on the south were carved before the northern ones.

The building abounds in sculpture; fantastic animals can be seen projecting from the Romanesque tower, while on the flamboyant pinnacle, free standing transitional figures of this late Gothic period are found amongst the profusion of sculptured ornament.

The photographs are by the authoress. Ed.





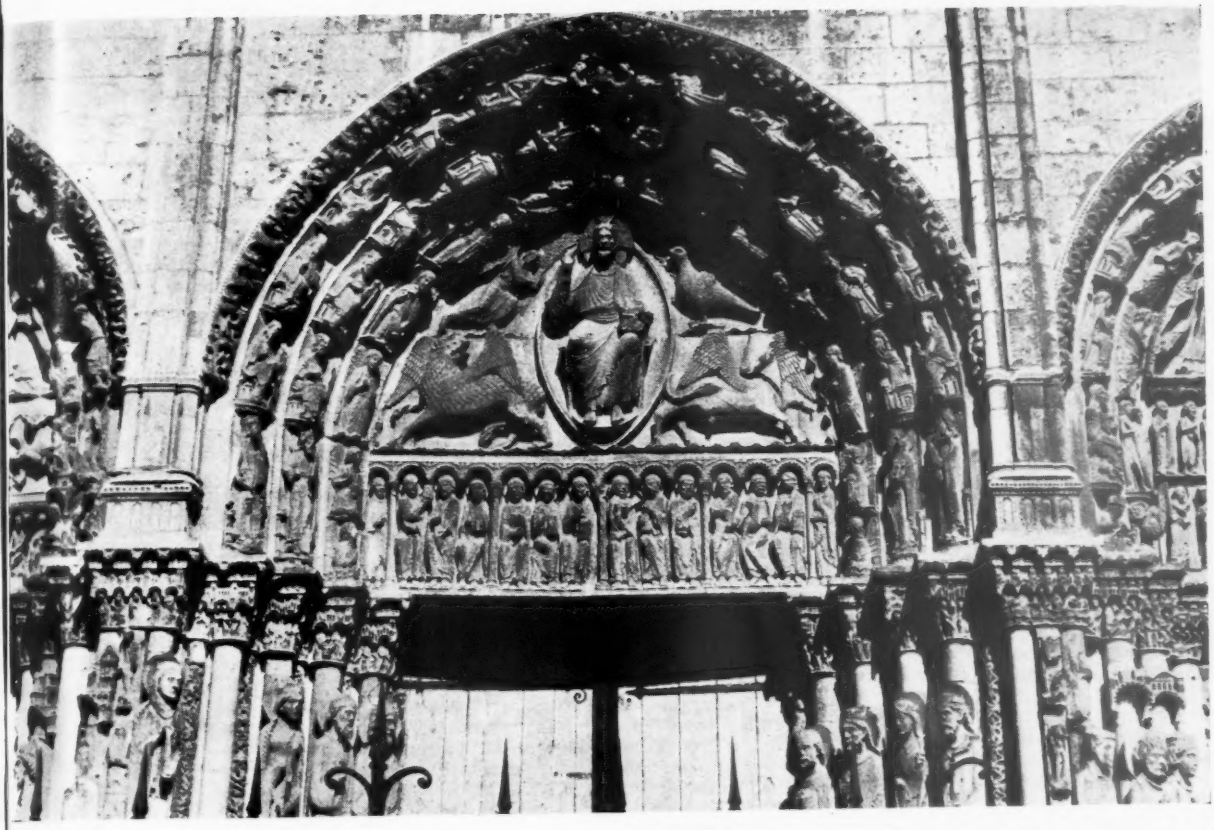
Four groups of figures on the north porch

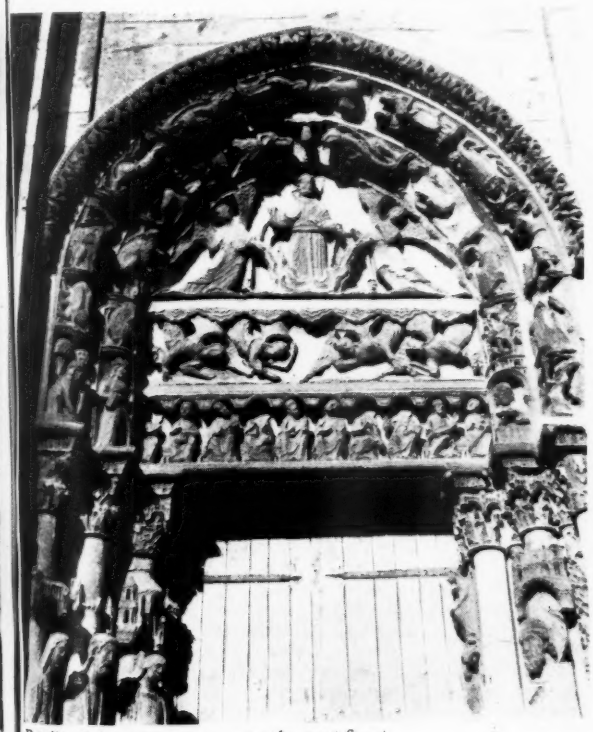
Romanesque, on the west front

Renaissance, on the flamboyant tower

Romanesque, on the west front

Figures forming parts of columns. Above: the central column of the south door





Details of three tympanums on the west front

Review of Construction and Materials

This section gives technical and general information. The following bodies deal with specialized branches of research and will willingly answer inquiries.
The Director, The Building Research Station, Garston, near Watford, Herts. Telephone: Garston 2246.
The Director, The Forest Products Research Laboratory, Princes Risborough, Bucks. Telephone: Princes Risborough 101.
The Director, The British Standards Institution, 28 Victoria Street, Westminster, S.W.1. Telephone: Abbey 3333.
The Director, The Building Centre, 9 Conduit Street, W.1. Telephone: Mayfair 8641-46.

Aerocem. One of the defects of the ordinary hand-applied cement rendering is its liability to crack and craze; and its power of resisting moisture is not beyond question. Messrs. Aerocem claim to have overcome these objections by their patented process, by which they can spray an ordinary cement-sand mix on to walls and other appropriate backings. The important item in the process is aeration of the mixture by means of a foaming solution and agitation. Definite proportions of a foaming mixture of a soapy nature are added to the mixing water, which is then agitated by a two-bladed propeller, rotated by compressed air. The cement and sand are then added, and the whole is agitated until the desired amount of aeration, and therefore increase in bulk, is reached. The mixture is then sprayed through a gun, and by means of controls the spray can be adjusted from fine to coarse.

Advantages claimed for this patented process are that the cellular nature of the application, caused by the aeration, gives better insulation value and acoustic resistance, and enables the coating to be more durable and resistant to cracking and crazing than a hand-applied rendering. As the bulk of the cement-sand mixture can be increased up to 66 per cent its covering capacity is likewise increased. The coating can be built up to the required thickness by repeated applications, and in the thicker coats the material is claimed to be almost waterproof, owing to its cellular nature.

The manufacturers of the equipment are Messrs. Aerocem, Ltd., of Rolands Wharf, 71 Lots Road, Chelsea, London, S.W.10.

Timber Development Association. The Association has begun a new series of publications designed to provide architects, builders, engineers and consumers with the most recent information on the scientific usage of timber. The first is titled 'Constructional Research Bulletin No. 1. Timber Connectors'. It is by Phillip O. Reece, Director of the T.D.A., and describes and illustrates types of jointing, mentioning their relative efficiency; modern connectors; and ends with a bibliography.

The bulletin is accompanied by Design Sheet No. 1, showing the T.D.A. roof, type A, being a trussed rafter construction for spans not exceeding 17 ft. clear and pitch of 40 degrees, covered with plain tiles; with details of the joints. It is stated that this design is not a single design for one particular span or pitch, but shows a system of construction which will be illustrated by other design sheets covering a number of different spans up to 26 ft., for two main pitches of 40 degrees for plain tiling and 35 degrees for interlocking tiles or slates.

Constructional Research Bulletin No. 2 is 'Glues and their uses', by R. A. G. Knight. Contents: introduction; use of glues in the woodworking industry; descriptions of glues in common use; selecting the correct adhesive; British Standards dealing with adhesives; extended glues for plywood manufacture; methods of using glues; closure; bibliography.

Forest Products Research Laboratory, D.S.I.R. There is very little reliable information on the durability of timber, and so in 1932 the D.S.I.R. decided to carry out field service tests, and have recently issued 'Forest Products Research Records, No. 30. The natural durability of timber'. The booklet states that in dry surroundings all species of wood are durable and will last more or less indefinitely, subject, of course, to damage by wear, heat, chemicals and insects, but in damp conditions the resistance of different woods to fungal decay varies. The conditions of service are put down under four main heads: (1) permanently dry conditions; (2) conditions intended to be permanently dry, but which may become damp by accident or through faulty construction; (3) exposure to the weather or other intermittent source of moisture such as condensation, and (4) exposure to direct contact with the ground or other permanently damp environment.

The field tests were carried out by the Forest Products Research Laboratory at three places: Princes Risborough, Bucks; Thetford in Norfolk; and near Dolgelly in North Wales. At each station ten specimens of the same wood, each 2 ft. × 2 in. × 2 in. were driven 15 in. into the ground; the test extending over a varying number of years up to fifteen. The results are tabulated under the name of the wood, the number of years under test, the number of specimens decayed, and the average life. Another classification gives various woods graded according to durability: grade 1 being a life up to 5 years; grade 2, 5 to 10 years; grade 3, 10 to 15 years, and grade 4, 15 years and over.

It is pointed out that as antiseptically-treated wood can be used there is generally no point in using a naturally durable wood solely to avoid decay, as better service can usually be obtained from a treated timber selected for its ability to take preservative treatment well. Thus the data on natural durability will help to indicate when it is safe to use a timber in its natural state, and when it requires protection by preservative treatment.

The booklet can be obtained from H.M.S.O., price 6*d.* net, or 7*d.* by post.

Cement Economy. The Ministry of Works have published an Economy Memorandum (PI.31/5) on the use of cement in housing and small-scale building. The memorandum is based on the interim report of the sub-committee on housing and small-scale building of the committee on cement economy appointed by the Minister of Works.

When examining the bills of quantity of twelve fairly representative local authorities the sub-committee found a wide variation in the cement content of items that could be comparatively constant and up to adequate standards of construction. Appendix 1 sets out recommended standards of construction for the component parts of a house. Appendix 2 gives information on quality control of concrete.

It is stated that use of the recommendations should result in not more than 6 to 7½ tons of cement for building a normal house of 1,000 sq. ft. floor, apart from prefabricated materials, such as concrete tiles. Mortar for brickwork accounts for more cement than any other single item, and consumption rises steeply when rich mixes are used. The sub-committee endorses B.R.S's. recommendation for gauging mortar with lime, which saves about two-thirds of the cement.

Economy Memorandum PI.31/6 deals with the use of cement in engineering and large-scale building. Copies may be obtained from the Ministry of Works, Room 611, Lambeth Bridge House, London, S.E.1.

British Standard 1391 47. Performance test for protective schemes embracing stoving paints used for the protection of light gauge steel and wrought iron against corrosion. The drafting committee wish to obtain information from users regarding 'the reproducibility of the tests and its value on predicting service performance', and instead of issuing a formal questionnaire, ask that results of experience may be sent to them under the following heads: (1) For what purpose do you have you used B.S.1391/47? (2) Do you make much or little use of it? (3) Does your experience lead you to believe that the results give a reasonable indication of the probable service behaviour of protective coatings covered by the specification? (4) Have you encountered any difficulty in interpreting the results? (5) Are you satisfied with the reproducibility of the test? (6) Do you consider the test should be modified. If so, how? (7) Have you used this test on any other protective schemes than those specifically mentioned in the specification and with what results? (8) Have you any other observations to make?

Members willing to assist the B.S.I. by answering these questions are asked to send their replies to the Secretary of Committee ISE/28 B.S.1.

Annual General Meeting of the Architects' Benevolent Society

ON 3 MAY the Architects' Benevolent Society held its Annual General Meeting in the rooms of the R.I.B.A. The President, R.I.B.A., was re-elected President.

The 99th Annual Report was adopted by the Council. Moving the adoption of the Annual Report, Statement of Accounts and Balance Sheet, the President, Mr. Michael T. Waterhouse, M.C., said:

'My first words must be of sorrow for the severe loss which the Society has suffered through the death of its Honorary Secretary, Sir Charles Nicholson. As you will see from the Annual Report before you he had held that office for 30 years, and during all that time his advice and judgment have been of immense value to the Society. Those of us who have had the privilege of working with him on the Society's Council know just how much his help has meant.

'We have lost many other supporters during the past year, and it is up to us all to try and enlist more subscribers, so that we can continue our work and extend it in ways that will meet present conditions, and benefit those who come to us for help.

'We had to spend a good deal more in 1948 than in the previous year, both because we have had more applications and because some of them have needed very substantial help. Our object is to help those in need, and we do what we can for every case considered worthy of help. We often wish, however, we could give rather more than we do. If we had more money we could be even more useful.

'Our future policy includes the provision of homes for the elderly, but this obviously will not be possible until we have collected enough money to provide and maintain them. If every architect on the Register, and every architect's assistant now employed, were to give £1 to the Society now, that would total well over £15,000; our present anxieties for funds would be over, and there would be a useful nucleus for future plans.

'During next autumn our good friend Mr. Montgomery has again offered us a stand at the Building Exhibition, to run a Tombola in aid of our funds. Here everyone can help by providing prizes, such as copies of books which they have written, sketches they have made, and any other objects of interest and value. At the last exhibition we sold 425 tickets; this time we want to sell far more than that, but we can only do so if we have enough prizes to match the tickets. Please look out for something you can give; it is not too early, time goes fast and memories are uncertain. Spread the word among your friends, so that we may beat our record and collect enough to enable us to give help to those who need it in a manner that will cover that need.'

Mr. H. S. Goodhart-Rendel was re-elected Hon. Treasurer and Mr. Charles Woodward was unanimously elected Hon. Secretary in succession to the late Sir Charles Nicholson.

Officers and Council for the Year 1948-49
President: President, R.I.B.A.
Vice-Presidents: Sir Harry Vanderpant, Barrister-at-Law [*Hon. A*]; Sir Banister (Flight) Fletcher, D.Litt., F.S.A. [*F*]; Mr. H. Greville Montgomery [*Hon. A*]; Mr. H. S. Goodhart-Rendel [*F*]; Mr. W. H. Ansell, M.C. [*F*]; Sir Lancelot H. Keay, K.B.E. [*F*].
Members of Council: Mr. F. R. Hiorns [*F*]; Mr. G. E. Soulsby [*A*]; Mr. M. Tapper [*F*]; Mr. C. J. Epril [*F*]; Mr. D. H. McMorran [*F*]; Mr. Anthony Minoprio [*F*]; Mr. J. Alan Slater [*F*]; Mr. L. Sylvester Sullivan [*F*]; Mr. Maxwell Ayrton [*F*]; Mr. R. O. Foster [*A*]; Dr. C. H. Holden [*F*]; Mr. A. L. Roberts [*F*]; Mr. A. E. Wiseman [*F*]; Mr. Francis Jones [*F*] (Manchester Society of Architects); Mr. C. M. Hadfield [*F*] (Sheffield, South Yorks and District Society of Architects and Surveyors); Mr. Ernest Bird [*F*] (Hants and I.O.W. Architectural Association); Mr. R. A. Cornell [*L*] (Essex, Cambridge and Herts Society of Architects); Mr. D. A. Thomerson [*A*] (West Essex Chapter, Essex, Cambridge and Herts Society of Architects); Mr. B. M. Ward [*F*] (Liverpool Architectural Society); Mr. Cecil Burns [*F*] (South Eastern Society of Architects); Mr. N. R. Paxton [*F*] (West Yorkshire Society of Architects); Mr. H. V. de Courcy Hague [*F*] (Devon and Cornwall Architectural Society); Mr. H. Carr [*F*] (County Architects' Society); Mr. J. R. Leathart [*F*] (Architectural Association); Mr. W. H. Scanlan (Institute of Registered Architects); Mr. C. H. Taylor (Incorporated Association of Architects and Surveyors); Mr. E. Hadden Parkes [*F*] (Mount Pleasant Artists' Rest Home); a representative of Architectural Students.

The Year's Work: There had been more applications for help, many of which were cases of great distress and difficulty. Many elderly people who were able to find employment during the war are now unable to do so, and the rising cost of living makes a real problem to those who are no longer able to add to their income.

During the year the Bye-Laws were considered by a special sub-committee appointed for the purpose of clarifying them and widening their scope so as to enable the Society to give its help in a way that would meet present-day needs. Most of the alterations made were for the simplification of wording, but clauses have been included to allow the Society to make provision for homes for the elderly, and training for the young. The amended Bye-laws were approved at the Annual General Meeting in May 1948, and confirmed at a Special General Meeting in June last.

Death of the Honorary Secretary: By the sudden death on 4 March 1949 of Sir Charles Nicholson, the Architects' Benevolent Society has suffered a heavy loss. His connection with the Society dates back to 1906, and in 1918 he became Honorary Secretary in succession to the late Mr. Percival Currey, a position which he held until his death.

His remarkable capacity for grasping instantly the essentials of any problem will be remembered by all who sought his guidance, and his sound judgment and kindly humanity have meant much to the Society in the furtherance of its work. Even during the difficult days of the war, Sir Charles was a regular attendant at Council meetings, and gave much time to the Society.

He will long be remembered with affection and gratitude by all who had the privilege of knowing him and working with him.

Pensions and Grants: Relief was given in one hundred and five cases during the year, sixteen of these being new applications. Twenty-five were from architects or architects' assistants, sixty-four from widows, and sixteen on behalf of orphans. The Society's oldest beneficiary died at the end of the year, a month after her ninety-ninth birthday. She was a cheerful old lady, and always most grateful for the help given her during her last years.

Three pensioners died during the year, and in two cases the pension was transferred to the pensioner's widow. The third vacancy was filled by an architect's assistant, aged 84.

Two new pensions have been established, the Maurice Webb Pension, in commemoration of the late Mr. Maurice Webb's services to the Society as Honorary Treasurer from 1928 to 1939, and the Montgomery Pension, in recognition of the generous contributions made by Mr. Greville Montgomery and his family.

The Society's beneficiaries have again been among the recipients of parcels from Australia, and many letters have been received which show how greatly these gifts are appreciated.

Leonard Solomon Memorial Fund: Mr. Digby Solomon's gift of £100 a year under covenant, in memory of his son, killed as Flying Officer, Bomber Command, has, with the donor's consent, been made the nucleus of a special fund for the benefit of sons and daughters of architects, for their education and maintenance.

Finance: Subscriptions were rather less in total than in 1947, but the number of donations was larger, and the collecting boxes are now bringing in a useful amount from small contributions in office collections. It has been suggested that the example of one office might be followed, by charging a penny in the box for each incoming private call, and the appropriate charge for outgoing private calls.

The Society has suffered a further loss of income from investments owing to the conversion of its Railway Stock into British Transport Stock, which will produce £30 a year less. £1,500 2½ per cent Treasury Stock was purchased during the year out of the Society's capital funds.

Among the donations received during the year, for which the Council is very grateful, were £105 from Mr. E. O'Shaughnessy, £100 from the New Zealand Institute of Architects, £81 11*s.* 6*d.* from the Architectural Association Students' Club as the proceeds of their Pantomime, £52 10*s.* each from the Incorporated Association of Architects and Surveyors and the Institute of Registered Architects, £50 from Mr. L. Sylvester Sullivan, £40 from the Essex, Cambridge and Hertfordshire Society of Architects, £25 from Mr. Michael Tapper, £21 from the Exeter Branch of the Devon and Cornwall Architectural Society, £17 4*s.* 5*d.* from Mr. A. G. Stephenson, £16 from the Eastern Branch of the South Wales Institute of Architects, £15 15*s.* from 'The Bond,' £10 10*s.* each from the Croydon Chapter of the South-Eastern Society of Architects, Mr. C. W. Glover, Mr. F. E. Jones, Mr. A. J. Thomas and the Wiltshire and Dorset Society of Architects, £10 5*s.* and £9 14*s.* 6*d.* from the Gloucester County Architects' Department, and £9 4*s.* 9*d.* from the Hampshire and Isle of Wight Association of Architects.

Legacies totalling £947 9*s.* 3*d.* were received during the year under the wills of Mr. G. J. Aldous, Mr. R. S. Coulthard, Mr. T. P. Figgis, Mr. J. Bradshaw Gass, Mr. W. Howe Greene, and Mr. A. J. Morrice.

Half-Crown Fund: A personal Appeal from the President on behalf of the Society was sent out at Christmas as an inset in the R.I.B.A. JOURNAL as well as through the post, and this was printed in the technical press by the kindness of the Editors, including THE ARCHITECT AND BUILDING NEWS, THE ARCHITECTURAL ASSOCIATION JOURNAL, ARCHITECTURAL DESIGN, THE ARCHITECTS' JOURNAL, THE BUILDER, BUILDING AND THE OFFICIAL ARCHITECT. The Council is most grateful to all those who thus brought the Appeal to the notice of a great number of architects without involving heavy postage costs to the Society.

By the end of the year, £803 18*s.* 3*d.* had been received in response to the appeal, and further donations have brought the total up to £876 11*s.* 6*d.* The Council would like to express its thanks to all contributors for their generosity. Among the donations received were £25 each from Mr. A. S. Ash and Mr. R. C. Turner, £11 14*s.* 6*d.* from the Chelmsford Chapter, Essex, Cambridge and Hertfordshire Society of Architects, £10 10*s.* each from Sir Thomas Bennett, Messrs. T. P. Bennett and Son, and Mr. Digby Solomon, and £10 each from Mr. W. Holden, Mr. Howard Lobb, Mr. R. W. Germaney and Messrs. Scherrer and Hicks.

Advertisements: Once again there is a considerable increase in the amount of advertisement space taken in the 'Red Book' by firms connected with the building industry, resulting in a total of £359 5*s.* 6*d.* being added to the Society's funds. The Council offers its very grateful thanks to all these advertisers for their support.

Insurance: For the first time since the Insurance Scheme was inaugurated in 1923, the amount received in commission has totalled over a thousand pounds during the year. This is partly due to the increased interest in House Purchase insurance, and to the revival of the special Pension and Family Provision Scheme for architects, which has now been extended to include all architects and their draughtsman assistants. The Society's agency deals with many different types of insurance, including motor car insurance, architects' indemnity, and sickness and accident insurance, and the commission received on policies taken out through the Society's agency is treated as a donation from the policyholders towards the relief of distress.

In connection with insurance, the Council wishes to record its thanks to ARCHITECTURAL DESIGN, THE ARCHITECTS' JOURNAL, THE BUILDER, and the R.I.B.A. JOURNAL for so kindly giving free advertisement space during the year, which is most valuable.

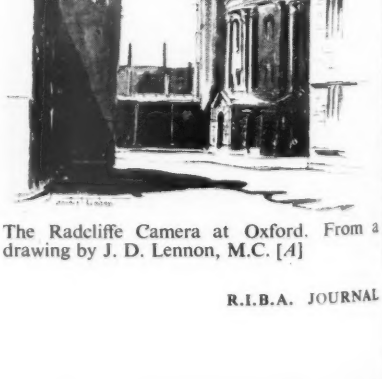
Obituary: The Council reported the death of many supporters during the year. These include Mr. R. S. Coulthard and Mr. T. P. Figgis, subscribers for many years and benefactors by will; Mr. E. R. Barrow and Sir Frank Elgood, subscribers for fifty years; Mr. T. D. Atkinson, a contributor since 1900; Professor Sir Charles Reilly, Mr. C. de Gruchy and Mr. H. C. Smart, subscribers for over forty years; Sir A. Brumwell Thomas and Mr. Isaac Taylor, who subscribed for more than thirty years; Mr. H. G. M. Laing and Mr. S. Gambier Parry, subscribers since 1920; Mr. Arthur Ainsworth, Mr. Henry Budgen, Mr. J. L. Carnell, Mr. E. F. Duncanson, Mr. R. A. Easdale, Mr. F. S. Hammond, Mrs. R. M. Leuchars, Mr. R. L. Palmer, Mr. W. Regan and Mr. Clyde Young.

Council and Officers: Sir Lancelot Keay, past President of the Society, has been nominated as a Vice-President. Mr. C. W. Glover now represents the Incorporated Association of Architects and Surveyors in succession to Mr. F. G. Sainsbury, and Mr. D. A. Thomerson succeeds Mr. R. O. Foster as representative of the West Essex Chapter, Essex, Cambridge and Hertfordshire Society of Architects.

The five senior members of Council retire by rotation, namely, Mr. C. H. James, Mr. A. B. Knapp-Fisher, Mr. Hubert Lidbetter, Mr. D. L. Solomon and Mr. P. V. Burnett. To fill the vacancies the Council has much pleasure in nominating Mr. Maxwell Ayrton, Mr. R. O. Foster, Dr. C. H. Holden, Mr. A. L. Roberts and Mr. A. E. Wiseman.

The Council records its thanks to the R.I.B.A. for the use of office accommodation and committee rooms, and for their generous annual grant, and for many other services, also to the Secretary and staff for courteous help on all occasions. The Council records its appreciation of the service, efficient and devoted as ever, rendered by the Secretary, Miss B. N. Solly, and her staff. By their unfailing tact and consideration they greatly add to the value of the Council's work.

In conclusion, the Council thanks all contributors for their support during the past year, and expresses the hope that they will continue this valued support in the future, and endeavour to interest their friends in the Society's work. All applications for help are treated in confidence, and therefore the diversity of help given by the Society is not always fully realized. Under the amended Bye-laws the Society will be able to extend its work in directions where it is greatly needed, provided the funds are forthcoming. The Council therefore appeals to all architects to support the benevolent Society of their own profession, so that those in need may be helped in the most useful way.



The Radcliffe Camera at Oxford. From a drawing by J. D. Lennon, M.C. [*A*]

Ministry of Education National Short Course for Teachers of Architecture

By J. Brandon-Jones, A.A.Dipl. [*A*]

ON FRIDAY AND SATURDAY 8-9 APRIL the R.I.B.A. Henry Jarvis Hall was handed over to the Ministry of Education for a short Course on Architectural Education. The course was the second of its kind, and those who were able to attend will certainly endorse the hope expressed by Mr. W. M. Keesey [*A*] that these meetings of teachers of architecture will become a tradition, for if last year's course was good this year's course was even better.

The proceedings were opened by the President of the R.I.B.A., Mr. Michael Waterhouse, who welcomed the delegates and visitors, and expressed the pleasure of the Institute in supporting the course and stressed the importance that the R.I.B.A. attached to the work of part-time and evening schools. The President was followed by Mr. F. Bray, Under Secretary for Further Education, who discussed the implications of the new Education Act and the increasing importance that the Government was attaching to technical education which was regarded not only as a social service but as a handmaid to production. Mr. Bray outlined the arrangements whereby Regional Advisory Committees will report to the National Advisory Council under Sir Ronald Weeks, who will report to the Ministry on requirements. This machinery would help the Ministry in formulating its proposals to the Government and ensure that demands from the various regions did in fact receive the attention that they deserved. Among points of interest discussed by Mr. Bray were the proposed facilities for training technical teachers and the possibility of making arrangements for full-time teachers to return to industry from time to time without losing their pension rights. The last point was obviously of considerable importance to architects who wished to increase their experience and keep in touch with modern methods and building types. Mr. Bray considered it essential that members of staff should be allowed and encouraged to undertake research work related to their teaching, and in conclusion spoke of the appalling lack of accommodation in the majority of schools and universities; he said that the Ministry was prepared to give every possible support in the matter of building priority to local authorities who put up schemes for the improvement of their facilities.

Student and Teacher

The second paper of the day, entitled *The Educational Aspect*, was read by Mr. C. A. Richardson, Chief Inspector of the Ministry of Education. This very interesting contribution dealt with aspects of educational technique that are important to the teacher no matter what his subject. It was pointed out that an educational philosophy was essential, the teacher must have a coherent set of beliefs about what he is at and why. What were the aims of education? Training of character or the development of intelligence, suggested themselves as possible answers, and there were others but, as Mr. Richardson said, these were really only means to an end. The only aim which really made sense was to enable the person you were educating to get as much enjoyment and satisfaction out of life as he could and to help others to do the same.

Mr. Richardson went on to say that teaching could best be explained as a three termed relationship, namely, Teacher—Pupil—Subject, each reacting upon the other. The pupil-subject aspect ought never to be neglected; the question 'Why has this student taken up this subject?' was often very important. The teacher-pupil relationship was not merely a matter of imparting information: the teacher must understand the individual pupil and know something of his general background outside the school and outside the subject. The pupil's relation to the teacher was influenced by the background, and it was essential to find out what it is that had drawn him to the study of the subject.

Mr. Richardson went on to discuss the normal type of pupil who took up a technical course. Aged from eighteen to twenty-two, he was at a difficult stage in his personal development, a stage of considerable bewilderment. He looked for a standard of values; his uncertainty produced resentment and bounce as a defence. A student at this stage needed first of all an acceptance of himself, with all his limitations, as an equal with whom things could be discussed. He needed understanding without officiousness and looked for guidance and support without restriction. In handling pupils of this age the class lecture was being discounted more and more, and it should play only a small part in education: but at the same time it should not be forgotten that it is good to hear an ordered exposition of some aspect of the subject by a master of that aspect. The group tutorial was valuable as it gave the pupil possibility of discussion and developed a readiness to hear other people's views. Most important of all, nowever, was individual tuition given by the tutor to his pupil for, unless the pupil was completely confident that the teacher was considering his view of their joint problem, the effectiveness of teaching would be limited. Pupils must discuss and must be aided to form standards.

Mr. Richardson was followed by Professor Richardson, who asked: 'What is the national position at this moment?' and reminded the conference of the importance of charting our present position before we argued as to where we should be in ten or twenty year's time. 'Architecture,' said Prof. Richardson, 'rests on the level of the suburban villa, the broad vulgarity, not the fine pinnacles!' He then spoke of the rebellion and denunciation of Ruskin, Morris and Lethaby, and listed some of the reasons for the unsatisfactory buildings of this age. Men no longer enjoyed simple things; the facility to invent depended upon the spirit of the community; there was insufficient co-operation and we must desire an English ideal; we might think in terms of well-being. One could not reduce architecture to a system; it had the power to resist and spring up anew.

Theory and History

After the luncheon interval Mr. G. D. Gordon Hake [*F*] read a paper on the *Teaching of Theory and History of Architecture*. He said that he could not agree with the suggestion made in a recent report that the teaching of theory should be confined to the later years of the course, and went on to explain the place of theory and history lectures in the curriculum of the R.W.A. School at Bristol, the two courses being so closely related as to overlap and reinforce one another. Theory lectures were given throughout the first three years. In the First Year a course on the elements based on Gaudet; in the Second Year, an approach to massing and grouping, based on Howard Robertson and explained by references to building of all periods; in the Third Year, a study of the practice of planning and the requirements for specialized building types. Mr. Hake then spoke of the lecturer's approach to his subject, and said that he felt that Theory should be stated as broadly as possible and

not dogmatized about. The student must be encouraged to take a wide interest in all forms of art; he should not be made to accept the rules given to him without testing them for himself, and free discussion should be encouraged, though it must to a certain extent be controlled. Discussions had a value for the teacher as well as the student as they helped him to get to know the feelings of his class. In illustrating the lectures, Mr. Hake said that it had been found valuable to draw examples from types not easily found in text-books and information sheets, and that in many cases diagrams had proved better than slides for explaining the principles, but that the student must be warned to refer back to the actual building or to a scale drawing or he would tend to fill his notebook with out-of-scale copies of rough blackboard drawings.

Turning to the History course, Mr. Hake explained that it was extended to cover four years. First Year: Pre-classic and Classic. Second Year: Byzantine and Mediæval. Third Year: Renaissance. Fourth Year: Regency to the Present Day. In addition to note books students were expected to make study sheets with examples drawn freehand to scale, and these sheets were collected and marked, the aim being to encourage quality rather than quantity in this work. Students seemed to take most interest in structural principles, but in discussing the Renaissance they had reacted to the spirit of adventure in design. Modern architectural history lectures in the Fourth Year were given as a series of carefully prepared papers, and the shortage of books and slides had made it necessary to rely to a considerable extent upon the epidiascope.

A lively discussion followed the paper, Mr. W. A. Eden [*A*] stressed the importance of first hand acquaintance with buildings; if a visit to the building itself was impracticable a measured drawing was the next best thing; where photographs had to be used the view should be chosen to illustrate some particular aspect of the building, not merely to make a good picture. He also said that at Leeds, Theory was not now taught as a separate subject, but was taught through the History course.

Mr. R. W. Paterson [*A*] pointed out that in teaching History we had an opportunity of making students vocal and helping them to learn to express themselves. He mentioned that at Cheltenham an illuminated screen had been set up in which slides were shown after lectures so that students could take notes and discuss the buildings and the lecturer's remarks.

Town Planning

The second paper of the afternoon was given by Professor Gordon Stephenson [*F*], of the department of Civic Design, University of Liverpool. His subject was *The Impact of Town Planning Legislation upon the Work of the Architect*. Professor Stephenson said that he felt that the new Act should *in the long run* help the work of the architect, and emphasized the need for 'designers' in town planning. He reminded us of the work of the English pioneers in the town planning field and the influence of Unwin and Adams in America and elsewhere. He suggested that members of the course might well visit Adshead's work at Kennington for inspiration. The paper was fully illustrated with slides, which included photographs, plans and diagrams of historical and recent planning.

There was only a limited time left for discussion of the paper, but a number of members jumping to their feet in quick succession threw out questions and ideas. There was obviously some disagreement as to the amount of time that could be devoted to town planning studies in the already overloaded curriculum of an architectural school, but as Mr. Cecil Stewart [*A*] remarked, the technique of planning towns or regions was the same as the technique of planning in architectural design, research, analysis and synthesis. One speaker urged that every school should be supplied with a heliodon. He was followed at once by another, who said that his school had made its own heliodon at a cost of £3! A cynic remarked that town planning authorities found 'NO' to be the easiest and safest answer when they did not know the proper answer! It was suggested that the introduction of an outline course on the History of Town Planning would serve to broaden the outlook of the student. Another speaker deplored the separation of architecture from town planning, which should be thought of rather as an extension of the architectural approach to wider fields. Professor Stephenson in reply said he agreed as to the danger of separation and over-specialization, and remarked that in discussing the introduction of town planning into the courses at Harvard and M.I.T. Dr. Adams had divided the subject into three parts: (1) Science of inquiry, collection of facts, study of history, etc. (2) Art of creating a design; and (3) Administrative problems and constructive problems concerned with the putting into effect of the design. He agreed that the schools could not make planners, but they could foster and encourage the right type of mind.

Discussion Among Teachers

After the official business was concluded Mr. T. E. Scott [*F*] asked if he might put before the members the suggestion that there should be more opportunities for meetings and discussion between members of the staffs of architectural schools, junior as well as senior; the conferences held so far had not given sufficient opportunity for expression of opinion. Mr. Scott felt that there would be greater freedom of discussion if staffs of schools could come together spontaneously in regions or groups, and he referred to the recent meetings organized at Leicester for the Midland and Northern Schools. The idea was warmly received, and it is greatly to be hoped that more will be heard of it, for it was obvious all the way through the course that there were many members who for lack of time or through modesty did not have the opportunity of contributing as they would have done in a smaller meeting with a lighter load of official lectures.

Planned Drawing and Sketching

The Second Day of the Course started with an 'Open Forum' in which half-hour periods were devoted to the discussion of a series of aspects of architectural teaching. The first period, devoted to sketching, measuring and local studies, was opened by Mr. A. Douglas Jones [*F*]. His main points were the importance of measuring, firstly, in teaching the student how to make an accurate record of an existing building, a useful accomplishment in practice as well as in study; and, secondly, the value of a measured drawing as a method of studying good work of the past. The student should always be made to state the purpose of any measured work he did, and special subjects or details should be included. As for sketching, there were two distinct aspects to be considered, one being the sketch made to recall some building or detail of interest, the first essential being that it should be an accurate record, and though a freehand sketch it must be clear and precise. The other type of sketch was that made to express an idea, and for this purpose students should be encouraged to study out of doors.

There was a very lively discussion in which many points of interest were brought out. One speaker mentioned a series of visits to buildings of the nineteen-thirties to study the weathering properties of modern materials; another mentioned the value of getting the student away from his ordinary surroundings and the opportunities that a measuring holiday gave for getting to know one's pupils. This was supported by the experience of a member of the staff of the Canterbury School, who described the school's annual measuring and sketching camp.

Practical Instruction

The second subject for discussion was *Practical Instruction on Building Operations*, introduced by Mr. F. Chippindale [*F*], of Leicester, who said that while many people had suggested that the part-time pupil was in closer touch with practical work than a full-time student, he felt that the difference was mainly theoretical. There were many difficulties in the way of sending students out on to jobs; the best solution was perhaps to insist that every student should spend one year out of five in an office and ask the office to help him to see as much as possible of the work in hand. Some schools were fortunate in having facilities for practical training, but the attempt to get students to build with their own hands was not in general a success and demonstrations by skilled tradesmen had proved on the whole better value for the time spent. The time factor must be kept in mind, and six hour demonstrations supplementing the First Year lectures had been found very useful.

Again there were plenty of ideas from the floor of the house, and it became evident that conditions vary vastly from school to

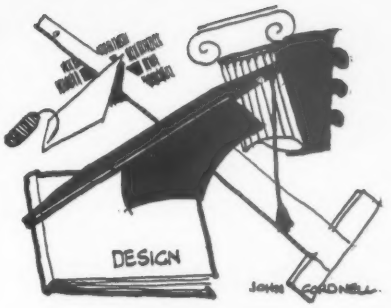
school. Some schools which are attached to important technical institutions have workshops and skilled demonstrators readily available, while others have to rely entirely on visits to work in progress. As one speaker remarked, the instructor taking a party of students round a building today was often horrified at the things he saw being done; whereas the instructor who could stage his own demonstrations could show how the work ought to be done without relation to present day shortages and austerities. A strong case was put forward for making every student use his hands to some extent whatever the difficulties, as there was no other way of bringing home to him the difficulty or even the impossibility of carrying out some of the details that he produced on the drawing board. This was certainly a subject that could have been discussed at greater length, and it is to be hoped that it will appear again on the agenda of a future course.

The Orders

Discussion then switched to the *Study of the Orders and their place in the curriculum*. Professor H. O. Corfiato [*F*] put the case for the 'Orders' and put it very well. As he said the task of the student was to learn how to learn; he had not to copy but to assimilate and to improve if he could. The study of the Orders helped the beginner in draughtsmanship, for accuracy was essential. It also helped him to learn the relationship between plan and section and elevation. It taught both technique and expression. We should avoid prejudice; to submit to the tyranny of a fixed idea, for example, that reinforced concrete and long windows are the only panacea was mere narrow mindedness. Mr. Martin S. Briggs [*F*], who joined in the discussion, reminded us that as long ago as 1750 the Beaux Arts School cautioned its students that Orders should be applied sparingly if at all, and only to those portions of the buildings to which they are appropriate! It was evident from the comments that were made that the subject is one that is still very much alive in the minds of teachers, and further discussion might have thrown considerable light on the methods adopted in various schools.

Scientific Developments

The last of the four subjects for discussion was *The use by students of available information on scientific developments in building technique and materials*. The first speaker was Mr. C. G. Bath [*A*], of the Northern Polytechnic, who said that the average architectural student in his keenness and enthusiasm invariably desired to use the very latest constructional idea or contemporary material in his own programme—to produce an effect—startling and arresting. He copied a new form such as shell concrete, and used it without regard to its evolution and suitability. In the same way he applied a material without regard to its suitability or durability. These misapplications of method and material raised the need to give the student a basis by which he could grasp the reason why a certain shape or building technique had been evolved, and the qualities and limitations of a material. The architect in selecting his technique and material, enumerated his requirements, selected his structural form, surveyed the field and used his experience in coming to a decision. Until the



student was able to acquire this experience he must base his selection on the principles given to him in his school course. The course must, therefore, cover both the principles underlying the use of structural materials and the peculiarities of each structural method, and, secondly, the principles defining the requirements of the parts of a building.

Saturday afternoon was spent on two papers. The first by Professor Basil Ward [*F*], described the ways in which the Royal College of Art was attempting to explain architecture to students of the other arts. His talk was illustrated by admirable slides of the drawings and study sheets made by his students, and some of these were undoubtedly an object lesson in draughtsmanship and rendering. The final paper in the series was a sprightly talk by Mr. Hugh Casson [*F*] on the subject of exhibitions and architecture, in which he let one or two small cats out of the bag in which he keeps his plans for the 1951 exhibition!

Correspondence

RUSSIAN ARCHITECTS AND BRITISH ARCHITECTURE

To the Editor of the R.I.B.A. JOURNAL

Sir,—I have received an enquiry from the Secretary of the Architecture Section of VOKS (the Soviet Society for Cultural Relations with Foreign Countries) in the following terms:

'We have had a request from some of our members for information on modern English architectural designs. They would like to have information on different types of up-to-date English residential (domestic) architecture. A brief description of the main tendencies in modern English architecture of this kind, and a set of photographs, illustrating modern architectural design and constructed buildings which have been approved by a wide English audience would be welcomed.'

The Society for Cultural Relations Architecture and Planning Group wishes to collect a comprehensive selection of material so that Soviet architects can have the fullest information, and I should be glad to have the help of your readers in this, in the form of gifts of plans, photographs, descriptive material, or publications on post-war housing work.—Yours faithfully,

ARTHUR LING,
Chairman, S.C.R. Architecture and Planning Group.

SIR CHARLES NICHOLSON

Sir,—I should like to add something to your interesting account of my friend, Sir Charles Nicholson. He was consulting architect to Norwich as well as to the other cathedrals mentioned. One of his most important additions to an ancient building was the War Memorial Chapel at Norwich Cathedral. To add anything suitable to such a noble building was evidently a challenging task. I insisted on three conditions—massiveness, general harmony with the old, a modern note. He fulfilled them all. The 'modern note' is a small arcade high up on the outside, which could not have been made in the Middle Ages, but was far from being inharmonious. Sir Charles was able to co-ordinate the Reports sent by the two bodies consulted—the Royal Fine Art Commission and the Central Council for the Care of Churches. Opposition to the building of the Chapel soon faded away. Many besides myself could testify to the ideal relations they had with such a distinguished architect.—Your faithfully,

D. H. S. CRANAGE
(Dean of Norwich 1928-1945).

ENGLISH USAGE IN THE JOURNAL

Sir,—It is with some dismay that I read in recent numbers of the JOURNAL the word 'verbal' used instead of 'oral', which latter is properly used for example to denote the spoken part of the Institute's examinations. Although in common parlance 'verbal' is often erroneously (or as the Concise Oxford Dictionary has it, 'loosely') used in this sense, I feel it would be deplorable for the R.I.B.A., a learned society, to condone such slipshod English.—Yours faithfully,

OSBERT F. C. EYRE [*A*]

Editor's note

Perhaps this illustrates our continued human proneness to error and the challenge to achieve accuracy which always confronts all editors. We chase errors all the time when proof-reading the JOURNAL—*but have learnt never to claim perfection!*

Practice Notes

Edited by Charles Woodward [*A*]

NATIONAL PARKS AND ACCESS TO THE COUNTRYSIDE BILL. This Bill is designed to increase everybody's opportunities of enjoying the pleasures of the countryside.

It provides for the creation of National Parks and the special protection of areas of outstanding natural beauty, for rights of access to open country, for a survey of all existing footpaths and bridle-ways and the creation of new ones and the establishment of natural reserves. It thus incorporates the main aims set out in the National Parks Report, the Report on Footpaths and access to the Countryside, and the Report on the Conservation of Nature in England and Wales.

The Minister of Town and Country Planning will appoint a National Parks Commission who will select the precise areas which are to be National Parks. The Minister will ask the Commission to begin by considering those areas recommended by the Hobhouse Committee in the National Parks Report.

The Bill provides for the appointment of special Planning Committees for the Parks and special arrangements will be made for reviewing any development proposed by Government Departments. Local Planning Authorities will be empowered by agreements with owners of land or, failing agreement, by orders or by acquisition, subject to confirmation by the Minister, to give the public access to mountain, moor, heath, down, cliff and beach so that they may wander without trespassing. Owners of land over which the public are given access will be compensated for any depreciation in the value of their land. These provisions will not apply to farm land other than grazing land, and if open country is brought back into cultivation it automatically becomes exempt from the access provisions.

Planning Authorities will be empowered to buy uncultivated land, by compulsion if necessary, and the Minister may buy areas of open country and dispose of it to the National Trust or some other suitable body.

New rights of way will be created where desirable, either by agreement or by order, and compensation will be payable to owners.

Nature reserves and conservation of wild life are provided for and the Bill empowers the Nature Conservancy, and also Local Planning Authorities in agreement with the Conservancy, to set up such reserves either by agreement with owners or by acquisition of land.

The Bill consists of 94 clauses and has to be read in conjunction with the Town and Country Planning Act 1947 in order to appreciate the full powers for preserving, enhancing and making available to the community the beauties of the countryside.

MINISTRY OF TOWN AND COUNTRY PLANNING. The National Federation of Building Trades Employers has now received a communication from the Ministry of Town and Country Planning concerning the circumstances under which land, subject to an agreement for a building lease, may be claimed as 'dead ripe' under section 80 of the Act.

To qualify as 'dead ripe' land the agreement for the building lease must have been entered into between 7 January 1937 and 7 January 1947, and must still have been in force on 1 July 1948, and all the other conditions in section 80 must be complied with.

Claims must be submitted by the builder before 1 July 1949 on Form L.R.D.I., obtainable from the Regional offices of the Ministry.

If the agreement for the building lease covers a large area of land it may be that a time limit would be prescribed in the certificate. If the Ministry give notice of a time limit the builder will then have the right to withdraw the application in whole or in part. (14 April 1949.)

Circular No. 71, dated 4 April 1949 refers to the Regulations made under section 82 of the 1947 Act (S.I 1948, No. 1461) and is an indication of the principles upon which the Minister will determine whether or not section 82 or 83 applies to the land of the local authority in question. The Circular is obtainable at H.M. Stationery Office, price 3*d.* net.

Circular No. 72, dated 14 April 1949, addressed to Local Authorities in England and Wales, concerns the colour of telephone kiosks, which has been discussed between representatives of the Ministry, the General Post Office, the Royal Fine Art Commission and the Council for the Preservation of Rural England. It was decided that the distinctive 'Post Office Red' should continue to be the standard colour for both urban and rural kiosks. Consideration of exceptional beauty or architectural interest may justify special treatment, and in such cases the Post Office will provide kiosks of dark battleship grey with the glazing bars of the door and sides painted in 'Post Office Red'.

Differences of opinion as to the use of the two colours can be referred to the Regional Controller of the Ministry of Town and Country Planning, and if he cannot effect a settlement the case will be referred to the Ministry's Headquarters and the Post Office Regional Director will be so informed.

MINISTRY OF WORKS. The Minister of Works has made a new Order (The Control of Rates of Hire of Plant Order, 1949, S.I. 1949, No. 567) which came into effect on 1 April 1949, and replaces the previous Order.

The maximum rates of hire for concrete mixers are amended, the 44-hour week and the 8-hour day are substituted for the 48-hour week and the 8½- and 5½-hour day for rollers, with amended rates calculated on a 'per hour' basis. Separate maximum rates of hire are adopted for scrapers.

The new rates are contained in the Schedule to the Order, and the Order is obtainable at H.M. Stationery Office, price 2*d.*

Lead Sheet and Pipe. As from 4 April 1949 the maximum selling price of lead sheet and pipe has been reduced by £18 per ton. (M.O.W./33/49. P.I.73, 5 April 1949.)

Cast Iron Baths. As from 12 April 1949 the Minister of Works has authorized an increase of 1½ per cent on the current maximum selling price of cast iron baths. (M.O.W./37/49. 13 April 1949, P.I.73.)

DAYLIGHT IN DWELLINGS AND SCHOOLS. The interim Code of Functional Requirements of Buildings entitled 'Daylight (Dwellings and Schools)' has now been published by the Codes of Practice Committee. It is obtainable from the British Standards Institution, 24/28 Victoria Street, S.W.1, price 5*s.* post free, reference CP3, Chapter 1 (*a*). (1949.)

MINISTRY OF HEALTH. The Minister of Health has made the Superannuation (Local Government Staffs) (National Service) Rules, 1949, which came into effect on 1 April 1949.

These Rules enable a person who is entitled to participate in the benefits of a superannuation fund maintained under the Local Government Superannuation Act, 1937, or any local Act scheme, if he is called up for national service, to continue to make contributions to the superannuation fund and so to secure that if on his return from his national service he again becomes a contributor to such a fund he will be able to reckon his national service as if it were service for the purposes of the Act of 1937 or any local Act scheme.

Provision is also made by the Rules to secure that if a non-pensionable employee of a local authority who has undertaken national service returns to civil employment and becomes entitled to participate in any such superannuation fund, his national service may be taken into account for superannuation purposes.

(Pension Rules, S.I. 1949, No. 545, obtainable at H.M. Stationery Office, price 1*d.*)

Circular 26/49, dated 30 March 1949, states that in consequence of the National Health Service Act and the National Assistance Act, the functions of Principal Housing Officers will be transferred to Principal Regional Officers as from 1 April 1949, to whom all communications should be addressed, other than those intended for professional and technical officers.

Circular 23/49, dated 31 March 1949, states that in consequence of the passing of the Town and Country Planning Act, 1947, it has become necessary to revise the Compulsory Purchase of Land Regulations, 1946. The Minister has made Compulsory Purchase of Land Regulations, 1949, which revoke the 1946 Regulations, and will come into force on 1 May 1949.

(Acquisition of Land Regulations, S.I. 1949, No. 507, obtainable at H.M. Stationery Office, price 4*d.*)

Circular 35/49, dated 11 April 1949, addressed to Housing Authorities in England (except the L.C.C., the Council of the City of London and Metropolitan Borough Councils), details of the procedure to be followed to obtain a direction for deemed planning permission for housing work under section 35 of the Town and Country Planning Act, 1947. The procedure is detailed under the headings of Acquisition of Site, Approval of Lay-out Plans and Elevations, Development of Site and General Procedure.

INDUSTRIAL BUILDING. Notes for the guidance of industrialists who wish to carry out building work have been issued by the Chief Information Officer of the Ministry of Works. The pamphlet explains the steps to be taken to obtain the required official consents.

For new work costing more than £1,000, the first approach should be to the Regional Controller of the sponsoring Department. Appendix I gives the types of building and civil engineering work (other than housing) sponsored by Departments, and Appendix II sets out the titles and addresses of the Regional Controllers of those Departments.

The Notes are stated to be issued by the Economic Information Unit of the Treasury, and it is assumed that they could be obtained either from the Treasury, S.W.1, or the Ministry of Works, Lambeth Bridge House, Albert Embankment, S.E.1.

LAW CASES. Lidle v. War Damage Commission. This was an appeal by the owner of war-damaged premises in respect of damage to the roof. The Commission found that the sum of £34 16*s.* 1*d.* was the proper cost of reinstating the roof, being the cost of corrugated asbestos sheeting with cement fillets in lieu of pantiles with lead flashings with which the roof had been constructed prior to the war damage. The claim was for £61 8*s.* 3*d.* for reinstating the roof as it existed previously.

The case was tried in the Chancery Division on 13 April 1949, before Mr. Justice Vaisey.

The appellant said he was entitled as of right to recover the cost of retiling the roof with new pantiles or with the nearest substitute for pantiles obtainable. It was admitted that pantiles were not procurable at the relevant time, and the appellant claimed that Broseley tiles should be regarded as equivalent to pantiles.

The Commission took the view that the asbestos sheeting was a suitable material with which to replace pantiles and proved a satisfactory substitute.

In giving judgment for the Commission and dismissing the appeal his Lordship said that the question whether damage had or had not been made good was essentially a question of fact, but 'reinstating' was more difficult. He thought the problem should be considered not on general principles but in the light of the circumstances of the case itself. He did not think that a picturesque Tudor mansion or even a sham replica of a Tudor mansion would be reinstated in its pre-existing form by putting a roof of asbestos sheeting or light blue tiles upon it instead of a roof of red tiles, which had been one of its essential features. In this case where the roof was invisible except from an aeroplane or high tree the position might well be different. It seemed to him that when a roof had to be replaced, any recognized roofing material which was suitable for the purpose in the circumstances might be used, without there being any departure from the original form of the building. The question of suitability was really a question of fact to be decided by the Commission within the limits of reason and ordinary common sense. If the Commission said that blue slates would be 'suitable' for the visible roof of a house in a row of houses with red-tiled roofs, or that new brightly coloured tiles would be 'suitable' for the high-pitched roof of a mediæval church, the arm of the Court would certainly be long enough to correct them. Was the material 'suitable'—in appearance, durability, resistance to climatic conditions, and so forth? The Commission had taken the view that an asbestos roof satisfied these tests in the present case and he could not see that he had any power to say that they were wrong or that if he had such power he ought to say so. In his view it was impossible to find any answer to the general question of whether in making good war damage it was permissible to substitute a different material for the material which was there before, except by replying that sometimes it was and sometimes it was not. The replacement of stone by brick, wood by steel, tiles by slates, or paving stones by asphalte or gravel would, in some cases, be the obvious, sensible and right thing to do; in other cases it would be an abomination or an outrage. A hard and fast rule was absolutely out of the question. The appellant had not satisfied him that the Commission had erred on any point of law and the appeal would be dismissed with costs.

Coupar v. Heinrich. This case tried in the High Court, King's Bench Division, on 14 March, concerned alleged damage to the plaintiff's house caused by the roots of poplar trees on the defendant's land penetrating into the plaintiff's land and under the foundations of his house.

The judge gave judgment for the plaintiff for £377 17*s.* 6*d.*, holding that the poplar trees did cause damage to the plaintiff's house and he was entitled to succeed in the action.

It appeared from the evidence that it is a common practice not to plant poplars on certain soil nearer than 100 feet from a house or building. The soil in this case was clay and the trees were about six feet from the plaintiff's house.

Book Reviews

A History of Cast Iron in Architecture, by *John Gloag* and *Derek Bridgwater*. 11 in. by 8½ in. xx + 395 pp. + vi pls. text illus. Geo. Allen and Unwin. 1948. £3 3*s.*

Despite its five hundred and seven illustrations, many of great historical importance, and its six coloured plates, *A History of Cast Iron in Architecture* is a disappointing book. Its text fails to live up to the fine standards set by its production and illustration, and to the claims of its publisher that it is 'a comprehensive history of the part that has been played by cast iron in architecture and the allied arts in Britain,' which will become 'an authoritative work'.

In an introduction Gloag and Bridgwater describe the use of iron in ancient Egypt, Assyria and China, and in Roman and Mediæval Britain, by means of a series of loosely related extracts from the writings of various authorities. A survey of the work of the Sussex foundries, where the first important architectural use in England of cast iron for firebacks and grave slabs took place, follows. The five main sections of the book are devoted to the development of iron founding in Britain from the mid-17th century to the present day, and to the use of cast iron, structurally and decoratively, in building.

In their research the authors refer not only to such standard works as Samuel Smiles' *Lives of the Engineers*, T. S. Ashton's *Iron and Steel in the Industrial Revolution*, and William Fairbairn's *On the Application of Cast and Wrought Iron to Building Purposes*, but also to original sources such as the records of members of the British Ironfounders' Association. Yet they have missed studies of equal importance; for example, a most valuable paper on the use of cast iron in building read by S. B. Hamilton to the Institution of Structural Engineers in 1941. The decorative uses of cast iron, however, are well illustrated in a series of excellent photographs and reproductions of working drawings and of pages from ironfounders' pattern books.

The early history of the iron bridge is well documented and has been adequately treated in this book, though the reasons given for the rejection of Telford's bold scheme (1801) for a 600-feet span cast iron arch in place of Old London Bridge do not agree with contemporary reports. Telford's scheme was shelved, but it was a turning point in the development of iron bridge design. More should have been said of the deliberations of the Select Committee of eminent engineers, mathematicians and scientists who examined Telford's design.

Gloag and Bridgwater, like earlier authors on the subject, accept Fairbairn's statement that the first successful use of cast iron beams and columns was in the Phillips, Wood and Lee mill at Manchester, designed by the firm of Boulton and Watt in 1801. Yet there is mention elsewhere of the use of cast iron in buildings in the 1790's. I would like to know more about

the experiments carried out in 1792 by a 'Committee of Architects' in a house in Hans Place loaned by Henry Holland, and about the younger Dance's proposal to Soane in 1796 for a joint experiment with a cast iron floor. Again there is no reference to the fantastic cast iron palace at Kew, begun by James Wyatt in 1802. Though never completed, when taken down in 1827 it had cost over £500,000.

A more detailed description is given of the use of cast iron in Victorian building. The last section of the book is devoted to modern developments, the uses to which cast iron is, or could be, put at the present time. Manufacturing processes are illustrated and described at length.

A History of Cast Iron in Architecture is not an easy book to read. The reader is not assisted by the long quotations from other authors, which are given in the text. Most of these should have been included in a series of explanatory notes. There is no bibliography.

G. ANTHONY ATKINSON [*A*]

Unknown Westminster Abbey, by *Lawrence E. Tanner*. Photographs by *R. P. Howgrave-Graham*. (King Penguin Books.) 7 in. 40 pp. +64 pls. Harmondsworth: Penguin Books. 1948. 2*s.* 6*d.*

There is irony in the title of this little book, for it is true that Westminster Abbey, suffocated by its own mythology, is unknown. Just as the entry into Shakespeare is blocked by a barrier inscribed 'Immortal Bard', so the Abbey is locked, for many, with a key labelled 'National Shrine'. The liquid sentiment of one generation sets hard and freezes out the next. Over and over again the ice has to be broken. And it will be broken, I think, for many by this scarlet-backed Penguin—that invaluable bird which so enriches our lives at so little charge. Mr. Tanner, the Keeper of the Muniments, here gives us one of the best short descriptions of the Abbey ever written and Mr. Howgrave-Graham a really lovely series of 64 photographs, general and detail. Drawing occasionally on the late W. R. Lethaby's massive but always vital and imaginative learning, Mr. Tanner unfolds the facts which matter most—the motives of the Royal Founder, the identities of the masons, the relationships of the Abbey with other buildings, English and French, and, not least important, the discoveries made during recent inspections and cleanings. Mr. Graham's photographs speak for themselves and, what is more important, speak for the Abbey.

JOHN SUMMERSON [*A*]

English Furniture. A reader's guide, by *R. W. Symonds*. [Text and bibliog.] (National Book League. Reader's guides *series*.) 8¼ in. 19 pp. Camb. U.P., for the League. 1948. 1*s.*

This is one of a series of pamphlets published for the National Book League. Mr. Symonds [*L*], an accepted authority, briefly traces the history of English furniture design, and provides an excellent bibliography which invites the reader to further study.

Theory of Structures, by *Arthur Morley*. 5th ed. 8½ in. xi + 617 pp. + 4 folding pls. Longmans, Green. 1948. £1 1*s.*

The first edition of this well-known book was published in 1912, and has for 36 years been widely used by engineering students. It deals with the theory of structures, and does not claim to be a book on structural design. Nevertheless, some practical designs are included, and folding plates show the details of a steel roof truss of 40-ft. span; a Pratt trussed riveted girder; a plate girder deck-bridge; and a plate girder through-bridge.

The early chapters, curtailed in the fifth edition, deal with the properties of materials and fundamental statics. In the later chapters standard methods of analysis are carried to Degree or Higher National Certificate standard, and some of the more modern methods of analysis are introduced. Mention may be made of the use of tension co-efficients for determining the forces in the members of plane or space frames; the Williott-Mohr diagrams for determining graphically the deflexion of framed structures; the moment-distribution method of Hardy Cross for the analysis of continuous beams and framed structures; etc.

Possibly the advanced engineering student may need to refer to other works for a fuller treatment of some topics—e.g. slope-deflexion methods of analysis: the use of models for mechanical analysis; theories of earth pressure, dealt with under the heading of soil-mechanics; but numerous references are given in footnotes to relevant sources of information.

Reinforced concrete problems have received a fuller treatment in this edition than formerly, and the usefulness of the book has been thereby increased.

Obviously, a fair knowledge of mathematics, particularly of calculus, is essential for a thorough understanding of the subject matter of this book. It is written primarily for engineers, and consequently it deals largely with what are essentially engineering problems. There is much, however, that an architect who is interested in the engineering aspects of structures should find useful, and, if he has the mathematical equipment, this book will be found far more satisfying than the very elementary and incomplete treatments which attempt to side-track the mathematics.

W. N. THOMAS [*F*]

Modelled Architecture, by *P. R. Wickham*. 9 in. (vii) + 161 pp. text illus. Percival Marshall. [1948] 12*s.* 6*d.*

The author knows all about modelling, and his practical hints are valuable, but architecture—well, it all depends what you understand by that much-enduring word. To Mr. Wickham it means Tudorbethan, although he also devotes a chapter to churches, in the course of which Dr. Pevsner receives a deserved, but unexpected, round of applause. Nearly two hundred explanatory drawings illustrate the text.

J. C. P.

Heating and Air Conditioning Equipment for Buildings, by *F. Burlace Turpin, M.I.H.V.E.* 8½ in. x + 286 pp. text illus. Pitman. 1948. £1 10*s.*

This book sets out to cover the whole field of heating and ventilation, and taken by and large, it succeeds admirably in so doing. The knowledge and experience of the author are clearly of the widest scope; whilst the publishers are to be congratulated on the excellence of the production, in spite of present difficulties. The diagrams are very clear, and there are many photographs, though it must be said that many of the latter are the manufacturers' hardy perennials.

Of criticisms there must be a few. In the first place, the excellent standard of production results in a correspondingly high price. The book deserves a place on students' bookshelves, but at 30*s.* few will be able to afford it.

Secondly, in his attempt to cover the widest possible scope, the author here and there makes a brief reference to certain equipment, without explaining that equipment in any further detail. The engineering student would doubtless not be worried by such omissions: the student of architecture would certainly have to call upon other references for their explanation.

A third, and perhaps the most serious criticism, is that in translating his text from the colloquial style of the spoken lecture to the more rigid manner of the written book, the author has adopted a tautological diction which many will find most disturbing; one cannot do better than to recommend to him that excellent publication of H.M. Stationery Office, *Plain Words*.

But lest I should end on a note of criticism, may I particularly commend the chapters on Tenders and Builders' Work, which are both clearly written, and cover a subject of the greatest importance to the architect but all too frequently omitted from text-books.

HENRY GODDARD [*F*]

Georgian City. A Plan for the preservation and improvement of Chichester, by *Dr. Thomas Sharp*. (Chichester Corporation.) 7¾ in. by 6½ in. 54 pp. incl. pls. and maps + folding map. Chichester: Southern Publishing Co. for Corporation. 1949. 7*s.* 6*d.*

Chichester has what many old towns have lost, and what new towns may well seek to discover—an air of grace and urbanity, a wealth of variety in harmony and a seemliness which is unrivalled in England.

Dr. Thomas Sharp epitomizes the spirit of his *Plan for the Preservation and Improvement of Chichester* in the perfect title *Georgian City*. He describes Chichester as 'the least spoiled example now remaining in England of a naturally grown, as distinct from a deliberately planned renaissance town'—a 'living, lively and lovely city' with all the qualities of variety and harmony, combined with a perfection of scale, which contribute to a pleasant and convenient way of life.

'The sovereign architectural rights of the Cathedral prevail', and should prevail. In suggesting a dramatic new approach to the

Cathedral from the west the author displays the sense of atmosphere which characterizes his project. He especially praises the care taken in siting the new County Hall so that the predominance of the Cathedral is not challenged, but he emphasizes that it would be most dangerous to introduce any other large buildings within the old city walls.

There seems to be little reason for any large scale expansion of this fortunate town, and areas for its natural and easy growth and for the regrouping of its few industries can be readily integrated with the present layout.

The movement of traffic within the old city is its most vital problem, and for this the author presents a clear and decisive solution. He makes the case for a new ring road just outside the city walls, with related car-stands, as strongly as he rejects any suggestion to widen the four main streets. These streets are undoubtedly the heart of Chichester, and it is here that the perfection of its scale and character is most evident and should be most carefully retained. The ring road with its traffic roundabouts and links to the new railway station and bus station is suggested as providing the right sites for necessary new commercial and administrative buildings of any considerable size.

The plan makes provision for preservation, and there is much to preserve, but stresses the truth that Chichester is no 'museum piece' and that its natural vitality is an essential part of its charm. Definite proposals are made to re-vitalize areas which may become derelict and to retain the pleasant air of domesticity in the city streets, so that the habit of gracious living in an urban setting may be perpetuated.

The case for the plan is sympathetically and forcefully presented, and the City Council have done well to publish this reasoned and persuasive report with its excellent *Country Life* photographs and coloured plans. The responsibility for planning now lies with the County Authority, but Dr. Sharp shows that the future development of Chichester, 'an important and irreplaceable part of the national heritage', is not only a matter of local urgency but one that concerns us all.

A. G. SHEPPARD FIDLER [*A*]

Newer Sarum—A Plan for Salisbury, by *Thomas Sharp*. 9¼ in. 84 pp. + 28 pp. + 2 folding maps. text illus. Architectural Press. 1949. 10*s*.

In the year 1220 the bishops and burgesses decided to leave the hill top of Old Sarum and found a new city in the water meadows to the South. The New Sarum was one of the first towns in England to be built to a deliberate plan. Salisbury is essentially a country town with a market and shopping centre catering for a wide regional need. With the attraction of the Cathedral in such a fine setting, the city ranks high among the tourist centres of England. Today the population is about 31,000 and the ancient streets are congested with modern traffic. Many of the small old buildings are outworn, having served their useful purpose, and recent pre-war development has been strung out in familiar ribbon fashion along the ridge top roads leading into the country.

The new plan suggests that the city should continue primarily to serve the historical functions of regional market and cultural centre, and may benefit from the introduction of a limited number of small industries, with a possible growth in population to 35,000. The buildings of architectural interest should be preserved, but new buildings should be good modern designs, not imitations of the past.

Several important roads converge upon the city and a great amount of seasonal traffic passes through the streets. By-pass roads are suggested with an inner ring road formed by constructing new roads and widening existing streets. The plan depends upon these proposals and, since it is unlikely that the buildings can be bought and demolished at present to make way for the roads, it may be many years before the scheme is carried out.

The book is well produced and nicely illustrated with good photographs and maps.

B. H. THOMPSON [*A*]

English Church Craftsmanship. An introduction to the work of the mediæval period and some account of later developments, by *F. H. Crossley*. 2nd ed. 8½ in. viii+120 pp. pls. text illus. Batsford. 1947. 12*s*. 6*d*.

This is the second edition of a work (not previously in the Library), standard in its subject, by the author of *The English abbey*, *English church design*, and *English church monuments*, and joint author of *English church woodwork*. It includes masonry and stone-carving, sculpture, tombs, carpentry and wood-carving, glazing, decorative painting, floor tiles (encaustic and incised), and metalwork, with sections on figure work and heraldry. The last chapter on post-Reformation work is a useful summary, only specific topics having previously been treated. The photographs are mostly from the author's many years' activities.

H.V.M.R.

Electricity. Text-book and Laboratory Manual, *&c*., by *M. M. Das*. 8½ in. xi + 483 pp. text diags. Thomas Murby. 1947. £1 5*s*.

This text-book is primarily intended for students preparing for the Intermediate Examinations in Science and Engineering of London University, Higher School Certificate, University Scholarships, etc. The price, unfortunately, may limit its appeal.

A Craftsman's Anthology, by *A. Romney Green*. Ed. by Joan Yeo. 7¾ in. 294 pp. + 2 pls. Geo. Allen & Unwin. 1948. 12*s*. 6*d*.

It should perhaps be explained that the craftsman of the title is the compiler, the subject-matter being only fortuitously concerned with craftsmanship. Arthur Romney Green was a man of varied enthusiasms, which are reflected in the singular catholicity of his selection. The choice ranges from Burns to Nietzsche, from Milton to Æ. The result is pleasant enough—an attractive bed-side book.

J. C. P.

The New Builders' Handbook—No. 4, on Painting, Decorating and Paperhanging, by *F. C. Horstmann* and *J. H. Sexton*. 143 pp. 1947. 5*s*.

The New Builders' Handbook—No. 3, on Plumbing and Hot Water Fitting, by *G. J. Nash*. 128 pp. 1946. 5*s*.

The New Builders' Handbook—No. 6, on Plastering, by *F. G. Ford* and *G. F. Ford*. 88 pp. 1948. 6*s*.

The New Builders' Handbook—No. 2, on Carpentry and Joinery, by *S. H. Glenister*. Reprint. 119 pp. 1945 (1946). 5*s*. All 7¼ in. text illus. Geo. Allen & Unwin.

Four members of a modest series on building that began to appear at the end of the war, and which is mainly intended for young apprentices. The authors are experienced teachers, and each book aims at brevity, simplicity and clarity.

Surveying for Agricultural Students and Planters, by *F. R. Stewart* and *J. C. Grassie*. 8½ in. 236 pp. text diags. Geo. Allen and Unwin. 1947. 15*s*.

This recent, attractively produced, textbook explains the general principles of surveying. But, as its title indicates, it is designed mainly for students working for the Agricultural Degree, the Diploma and the Planter's certificate.

Roof Bosses in Mediæval Churches. An aspect of Gothic sculpture, by *C. J. P. Cave*. Illus. with telephotographs. 9¾ in. viii + 235 pp. incl. [95] pls. + front. Camb.: University Press. 1948. £1 15*s*.

For over fifteen years Mr. Cave's painstaking work in photographing and identifying bosses has appeared in articles and reports of lectures in various architectural and archæological journals,* and it is a great advantage to have the material collected and classified in this attractive volume. This is a subject of many aspects—architectural, sculptural, iconographical, historical—and will therefore appeal to many.

The arrangement of the text is, usefully, by the subject portrayed; but in an appendix there is an alphabetical list of churches under places, those unvisited by the author being enclosed within [ ], and there are notes forming a bibliography. There are no less than 368 photographic illustrations, out of his enormous collection (according to the preface) of 8,000. (These illustrations, incidentally, are curiously included in the pagination, though actually unnumbered.) There is a good index, differentiating 'plates' (actually figures) from text. The appendix on photographic methods describes the telephoto and flashlight process in which Mr. Cave has been a pioneer.

The book refers, of course, only to pictorially-carved bosses, and not to the boss as a constructional feature, i.e. a downward-projecting vault-keystone, which remains to be documented (for origin see F. Bond, *Gothic architecture in England*, p. 305). The craftsmanship well illustrates the inventiveness and humour born of creative freedom of the mediæval carver, and also the wealth of mediæval work preserved and awaiting investigation.

H. V. M. R.

*See, e.g. general lecture, BUILDER, 1942 May 29, pp. 465-6.

Obituaries

Arthur Francis Bryan [*F*]. Mr. G. A. Cope [*F*], an intimate friend of Mr. Bryan, has sent the following appreciation:

'In October last, by the passing of Arthur Francis Bryan, at the age of sixty-three, Leicester has lost one of its most efficient and highly respected architects. Born in the county, he served four years' articles in Leicester from 1900 with the late William Morton Cowdell, whom he was afterwards to join in practice some nineteen years later. During his articles he studied architecture at the Leicester College of Art, being awarded a Bronze Medal and a succession of prizes in the national competitions then in being, as well as winning the Leicester Society of Architects' Travelling Scholarship in 1905.

'In 1906 he went to London on the staff of the late Harrison Townsend—then at the peak of his reputation—and in five years became his chief assistant, studying meanwhile at the A.A. Evening School under H. P. G. Maule in its Tufton Street days, where he also won a prize—as well as at the L.C.C. School of Arts and Crafts, and he passed his Final Examination and was elected Associate R.I.B.A. in 1910.

'In 1912 he further widened his experience on the staff of the late Leonard Stokes, Past President, R.I.B.A., and here he devoted considerable time to the study of reinforced concrete design and construction for buildings to be erected in the West Indies, and with characteristic thoroughness he perfected his knowledge in this subject by a spell on the staff of a commercial reinforced concrete firm.

'Physically not robust, he was never able to participate in strenuous field sports and was several times rejected for army service in the 1914-18 war, but his disability in this respect made him a devoted and tireless worker at his profession.

'On his return to Leicester to a partnership with Mr. Wm. Cowdell in 1919 he also joined the part-time staff of the Leicester School of Architecture for advanced construction, professional practice, etc., and continued his association with this school for many years. All his executed works show his wide experience and the meticulous attention he paid to sound construction in every detail, and he was ever impatient of inferior craftsmanship, which he always ruthlessly condemned. He was successful in a competition for the design of the new church of St. Anne, Leicester, erected in 1932, a fine brick structure with stone dressings. The few furnishings which still remain to be completed are to be carried out to his original designs. He also built two large schools for the Leicester City Education Committee, a great number of factory, commercial and domestic buildings, and carried out several local church restorations.

'After twenty years as its Treasurer he was elected President of the Leicester and Leicestershire Society of Architects in 1939, and as such served two years on the Council of the R.I.B.A. during Stanley Hall's Presidency. He was a prominent Freemason, and held office in the Provincial Grand Lodge of Leicestershire and Rutland, and at the time of his death was First Principal in a Royal Arch Chapter.

'A most industrious man of the highest integrity and with a quiet sense of humour, he will be missed by many who deeply valued his friendship and his loyalty to all with whom he worked.'

Charles Hartley [*L*], mayor of Stockport, Cheshire, in 1946, died at his home in Stockport on 16 February last, aged 72.

Born in Stockport, Mr. Hartley served his articles in the office of the late Mr. Tom Alfred Gould of Stockport, and then worked in Manchester from 1900 to 1920 with prominent Manchester architects before setting up in practice on his own account in Stockport. He was a Fellow of the Manchester Society of Architects.

Mr. Hartley designed the Davenport Cinema, Stockport, the Forum Cinema, Wythenshawe, Manchester, and the Cheshire Sterilized Milk Works, Stockport.

He was elected a member of Stockport town council in 1932 and was promoted to the aldermanic bench in 1943, but ceased to be an alderman when appointed mayor and left public life at the end of his mayoralty. During his years on the town council he was able to make many valuable contributions to the deliberations of the council and its committees and was for some years chairman of its Housing Committee and, as a member of the Planning and Development Committee, he took an active part in discussions concerning the immediate post-war plans for the development of the town of Stockport.

Mr. Hartley's wife died in 1947.

Herbert W. Mole, M.I.Struct.E. [*F*], died on 8 March at the Hammersmith Hospital after an operation following an illness lasting some weeks.

During his professional career as architect and engineer in Newcastle, Mr. Mole lectured in building subjects at the Rutherford Technical College. In 1927 he was appointed Head of the Building Department at the Leeds College of Technology and Art, and in 1930 he became first Principal of the newly formed Hammersmith School of Building and Arts and Crafts. Since that time the Hammersmith School has grown and developed, until it is now one of the most important establishments of its kind in the country.

His attitude to technical education was enlightened; he saw the importance of a wide educational background, and that the success of a school of building must be based upon sound craft work. At the same time he sought to encourage education for the professions allied to building and this, by virtue of his abilities, qualifications and training he was well able to do. Possessed of good taste, he did all in his power to encourage the development of arts and crafts at the Hammersmith School, and the growth of the Senior Building School has been matched only by that of the Senior School of Art.

Herbert Mole was a shy and modest man, and it was not easy to know him, but the one feature patent to all was his enthusiasm for the school and his lively concern for its well-being and for the careers of the young people committed to his charge. His keenness proved infectious, and this had the inevitable effect of all his associates almost unconsciously giving of their best.

His contacts with industry were widespread and of long standing, and for years he had taken a practical interest in the training of apprentices for plumbing (he was Honorary Secretary and Treasurer of the Plumbing Trades National Apprenticeship Council). An old and valued member of the Hammersmith Rotary Club, he became President during the past year. It is regretful, but none the less true, that his untiring efforts, heedless of his own comfort, played their part in hastening his end, and he will be sadly missed by many. All who knew him will agree that he left building education in a much better state than that in which he found it.

Notes and Notices

NOTICES

Special General Meeting, Tuesday 24 May 1949 at 6 p.m.

A Special General Meeting will be held on Tuesday 24 May 1949 at 6 p.m. to confirm the resolutions passed at the Special General Meeting held on 3 May 1949 on the revision of Bye-law 62.

Tenth General Meeting, Tuesday 24 May 1949

The Tenth General Meeting of the Session 1948-49 will be held on Tuesday 24 May 1949, after the Special General Meeting on that day, for the following purposes:

To read the minutes of the One Hundred and Eleventh Annual General Meeting held on 3 May 1949; formally to admit new members attending for the first time since their election.

Professor Ian Bowen to read a paper on 'The Economics of Building Operations and the Architect.'

(Light refreshments will be provided before the meeting.)

Eleventh General Meeting, Tuesday 21 June 1949 at 6 p.m.

The Eleventh General Meeting of the Session 1948-49 will be held on Tuesday 21 June 1949 at 6 p.m. for the following purposes:

To read the minutes of the Tenth General Meeting held on 24 May 1949; formally to admit new members attending for the first time since their election.

To read the report of the scrutineers appointed to examine the voting papers for the election of the Council for the Session 1949-50.

Mr. Charles Woodward [*A*] and Mr. Sydney Redfern, LL.B., to answer questions on 'Practice', which may be sent in before the meeting.

(Light refreshments will be provided before the meeting.)

Session 1948-49. Minutes VIII

At the Eighth General Meeting of the Session 1948-49 held on Tuesday 5 April 1949 at 6 p.m.

Mr. Michael Waterhouse, M.C., President, in the Chair.

The meeting was attended by about 150 members and guests.

The Minutes of the Seventh General Meeting held on 8 March 1949 having been published in the JOURNAL, were taken as read, confirmed and signed as correct.

The President delivered an Address on the presentation of the Royal Gold Medal 1949 to Mr. Howard Robertson, M.C., S.A.D.G. [*F*], and called upon Mr. R. E. Enthoven [*F*], President of the Architectural Association, Mr. J. Murray Easton [*F*], Sir Hugh Beaver, M.Inst.C.E., and Sir Percy Thomas, O.B.E., Past President, to speak on the work of Mr. Robertson.

The President then asked Sir Percy Thomas, Past Royal Gold Medallist, to escort Mr. Howard Robertson to the platform.

Having been invested with the medal, Mr. Howard Robertson expressed his thanks for the honour conferred upon him.

The proceedings closed at 6.35 p.m.

Session 1948-49. Minutes IX

At a Special General Meeting of the Session 1948-49 held on Tuesday 3 May 1949 at 6 p.m.

Mr. Michael Waterhouse, M.C., President, in the Chair.

The meeting was attended by about 70 members.

The President announced that the Special General Meeting had been called for the purpose of considering the following proposal of the Council:

To amend Bye-law 62, which in its present form allows leakage into the public Press of the name of the person elected Royal Gold Medallist long before there has been time for the King's approval to be signified.

The following resolutions were then moved by Mr. A. L. Roberts, Hon. Secretary, seconded by Mr. John L. Denman, Hon. Treasurer, and carried *nem con*:

(1) That the following Bye-law 62 be deleted:

62. In the case of the Royal Gold Medal the Council shall announce to the members at a General Meeting, at least four weeks before the meeting of the Council at which the election is to be made, the name of the person they propose to submit to His Majesty as a fit recipient of that honour. The award shall be by Resolution of the Council.

And the following Bye-law substituted:

62. The election of the person proposed for submission to His Majesty as a fit recipient of the Royal Gold Medal shall be by Resolution of the Council.

(2) That the necessary steps be taken to obtain the sanction of the Privy Council to such amendments to the Bye-laws as are required to give effect to the foregoing resolution.

The Hon. Secretary announced that a Special General Meeting to confirm these resolutions would be held on Tuesday 24 May 1949 at 6 p.m.

The proceedings closed at 6.5 p.m.

Session 1948-49. Minutes X

At the One Hundred and Eleventh Annual General Meeting of the Session 1948-49 held on Tuesday 3 May 1949 at the close of the Special General Meeting.

Mr. Michael Waterhouse, M.C., in the Chair.

The meeting was attended by about 90 members and guests.

The Hon. Secretary announced that the Minutes of the Eighth General Meeting held on Tuesday 5 April 1949 were being published in the JOURNAL, and they were taken as read, confirmed and signed as correct.

The following members attending for the first time since their election were formally admitted by the President:

AS FELLOWS

E. H. Banks, Bernard Engle, J. J. de Segrais, L. H. W. Wyatt.

AS ASSOCIATES

F. B. C. Bravington, D. M. Evans, C. P. Griggs, C. V. K. Kennedy, L. M. Khachadourian, Cecil Lush, Miss J. H. Martin, B. R. Musgrave, Fabian Olins, L. R. Parratt, R. A. Patten, Peter Potter, Wilson Peiris, John Radford.

AS LICENTIATES

Edward Duley, R. C. Evans, Egon Riss, F. A. Ruhemann, K. A. Turner, F. W. E. Vanstone.

The President formally presented and moved the adoption of the Report of the Council and Committees for the official year 1948-49. The Hon. Secretary seconded the motion, and a discussion ensued.

The motion having been put from the Chair, it was resolved that the Report of the Council and Committees for the official year 1948-49 be approved and adopted.

The President stated that the list of attendances at the meetings of the Council during the Session had been laid on the table and would be printed in the JOURNAL and sent to members with the voting paper.

On the motion of the President, a hearty vote of thanks was passed by acclamation to Mr. Cecil Burns [*F*] and Mr. Brian Peake [*F*] for their services as Honorary Auditors for the past year.

Mr. Brian Peake [*F*] and Mr. Charles Sykes [*A*] were nominated for election as Honorary Auditors for the ensuing year of office.

The proceedings closed at 7.30 p.m.

Cessation of Membership

Under the provisions of Bye-law 21 the following have ceased to be members of the Royal Institute:

As Associates. James Stott Dawson, U. Maung Maung, Robert Oakman Sutherland.

R.I.B.A. Kalendar

The next issue of the Kalendar will be published in October and members and Students wishing to notify new addresses for publication should do so as soon as possible. In order to conform to the printers' time table, changes of address received after 31 May (overseas members and Students 30 June) can not be included.

Owing to paper restrictions it will still be necessary to restrict members and students to one address each.

British Architects' Conference, Nottingham, 29 June-2 July 1949

All members and Students of the R.I.B.A. and the Allied and Associated Societies are cordially invited to attend the Conference. Full particulars of the programme were enclosed with the April issue of the JOURNAL.

Members of the R.I.B.A. and the Allied Societies who are officials of local authorities will be welcomed as delegates to the Conference.

Members who propose to attend should complete the application form attached to the programme as soon as possible, but in any case *not later* than 4 June.

A list of hotels is given in the Conference programme and members are advised to reserve accommodation at the earliest possible moment to avoid the risk of disappointment.

Architectural Competitions—Assessors' Awards

All architects who take part in architectural competitions are reminded by the Council of the R.I.B.A. that participation in a competition is a definite acceptance of the principle that the award of the assessor is final and binding upon themselves as well as upon the promoters, and that any competitor who feels that he has real ground for dissatisfaction with an assessor's award should communicate with the Secretary of the R.I.B.A.

Further, all architects, whether competitors or otherwise, are reminded that discussion or correspondence in the public or professional Press which tends to criticism or disparagement of an assessor or award cannot alter the final and binding effect of the award, but may prejudice architects and the whole competition system in the opinion of the public, and is therefore, highly undesirable.

BOARD OF ARCHITECTURAL EDUCATION

R.I.B.A. Final Examination, December 1948

The following successful candidates were awarded Distinction in Thesis: D. B. Johnson (Ilford), J. V. J. Vivian (Bedford), Ivor Warner (Seven Kings).

R.I.B.A. Maintenance Scholarship in Architecture

The Royal Institute of British Architects offer for award in July 1949 the following Maintenance Scholarship in Architecture tenable from 1 October 1949.

An R.I.B.A. fourth and fifth year Maintenance Scholarship of £60 to enable a student who has passed the Intermediate stage to complete an approved course at a School of Architecture recognized for exemption from the R.I.B.A. Final Examination.

The scholarship is intended to enable a promising student whose parents or guardians have not the necessary means, to complete the course at one of the Schools of Architecture recognized for exemption from the R.I.B.A. Final examination. Students already taking such a course are also eligible to apply for the scholarship. The scholarship is available only for a student who is a British subject (i.e., by birth or naturalization).

The value of the scholarship, up to the limit stated, will depend on the financial circumstances of the parents or guardians of the candidate. The parents or guardians will be required to furnish particulars on the proper form, of their financial position.

Particulars and forms of application may be obtained, free, on application to the Secretary to the Board of Architectural Education, R.I.B.A., 66 Portland Place, London, W.1. The closing date for the receipts of applications, duly completed, is 1 July 1949.

ALLIED SOCIETIES

Changes of Officers and Addresses

Institute of Southern Rhodesian Architects. President, Mr. R. S. Parker [*A*], Partridge's Building, Speke Avenue, Salisbury, South Rhodesia.

South Wales Institute of Architects. President, Mr. Edwin Smith [*F*], Great Western Chambers, Neath.

The New Zealand Institute of Architects. President, Mr. R. S. De R. Harman, P.O. Box 379, Christchurch, New Zealand. Secretary, Mr. F. H. Harris, The New Zealand Institute of Architects, P.O. Box 1527, Wellington, N.Z.

Berkshire Society of Architects. Chairman, Mr. T. L. J. Chamberlain [*F*], 14 Cross St., Reading. Hon. Secretary, Mr. N. C. Hughes [*A*], 85 Oak Tree Road, Tilehurst, Reading.

Oldham Society of Architects. President, Mr. H. Bowman [*F*], 10 Clegg Street, Oldham. Hon. Secretary, Mr. G. P. Whyman [*A*], Barclays Bank Chambers, Church Lane, Oldham.

Nottingham, Derby and Lincoln Architectural Society. President, Mr. C. F. W. Haseldine [*F*], Halifax House, Milton Street, Nottingham.

Aberdeen Society of Architects. President, Mr. John Maclennan, F.R.I.C.S. [*A*], 3 Bon-Accord Crescent, Aberdeen.

Manchester Society of Architects. President, from 1 July 1949, Mr. F. Leslie Halliday, A.M.T.P.I. [*F*], 14 John Dalton Street, Manchester.

The Institute of South African Architects—Cape Provincial Institute. President, Mr. R. F. Ohlsson [*A*], Permanent Buildings, 8 Darling Street, Cape Town.

Devon and Cornwall Architectural Society. President, Mr. H. M. R. Drury [*F*], The Church House, The Close, Exeter. Hon. Secretary, Mr. W. Martin Fleet, Central Chambers, 52a Hyde Road, Paignton. *Plymouth Branch:* Chairman, Mr. L. F. Vanstone [*L*], 11 Grimstone Terrace, Houndescombe Road, Plymouth.

Essex, Cambridge and Hertfordshire Society of Architects—Southend-on-Sea Chapter. Chairman, Mr. Laurence J. Selby [*A*], Lloyds Bank Chambers, 79 High Street, Southend-on-Sea.

Oxfordshire Society of Architects. Chairman, Mr. H. F. Hurcombe, F.R.I.C.S. [*F*], Bury Knowle, Headington, Oxford. Hon. Secretary, Mr. E. R. Chilton [*A*], 'Riverside', High Street, Witney, Oxfordshire.

West Yorkshire Society of Architects' Annual Dinner

The annual dinner of the West Yorkshire Society of Architects was held on 17 March in Leeds, at which many distinguished guests were present. Mr. A. B. Knapp-Fisher [*F*], Vice-President, R.I.B.A., representing the Institute, responded to the toast 'The R.I.B.A. coupled with the West Yorkshire Society of Architects'. He said there were still too many people who

thought of the architect as a man who came after the surveyor and builder had finished, in order to add the details! He declared the true function of the architect was first and foremost that of a designer. Architecture was, however, also a science and a business, and Mr. Knapp-Fisher gave the warning that there were agencies at work who would not mind if the architect took a lower place.

The hope that soon the Leeds School of Architecture would be transferred to the University was expressed by Mr. W. L. Andrews, editor of THE YORKSHIRE POST, who proposed the toast. He thought it a matter of national concern that a profession so important as the architect's should be given the best intellectual vitality, dignity and status.

Other speakers were Mr. Benjamin Chippendale [*L*] (President of the West Yorkshire Society of Architects) and the Lord Mayor of Bradford. There were two hundred present at the dinner, the first to be held by the Society since 1938.

Bedfordshire Branch of Northamptonshire, Bedfordshire and Huntingdonshire Association of Architects' Annual Dinner

The Bedfordshire Branch held its annual dinner at Luton on 24 March, Mr. C. H. Aslin [*F*], Vice-President, R.I.B.A., representing the Institute. He responded to the toast of the R.I.B A. proposed by Mr. Peter B. Dunham [*F*].

Professor A. E. Richardson, R.A., M.A., F.S.A. [*F*], who proposed the toast 'The Guests', urged the need for a return to craftsmanship in this country; his principal suggestion for achieving it was through the medium of a more practical architectural education: he suggested the best method would be for education authorities to select from elementary and secondary school pupils a certain number of scholars who showed a desire for handwork and so on, and he would then have these boys directed to technical colleges, where they would be trained in geometry and mathematics. Then they would go into the works of reputable builders and learn something of the practical side of building and simple elementary building construction. These skilled young men would then become leaders of lesser craftsmen but not so well gifted, but no less desirous of the opportunity to work, and thereby a nucleus of assistants with the right technical approach would be built up. Sir Frederick Mander, M.A., B.Sc., responded.

Mr. S. V. Goodman [*L*], chairman of the Bedfordshire Branch, presided at the dinner, and the toast of the Bedfordshire Branch was proposed by Mr. W. Rosser [*F*], Chairman, Northants. Branch.

Tees-side Branch of Northern Architectural Association Celebrates Twenty-five Years

Members of the Tees-side Branch of the Northern Architectural Association celebrated the Silver Jubilee Year of the Branch with a dinner held in Stockton on 31 March. At an informal reception prior to the dinner, attended by the Mayor of Middlesbrough and Chairman of the Bishop Auckland U.D.C., members had the opportunity of talking to Mr. C. D. Spragg, C.B.E., Secretary R.I.B.A., and inspecting an exhibition of students' drawings.

To mark the Jubilee Year, Mr. J. P. Rudd [*L*], the Branch Chairman, presented a Silver Cup to be awarded annually to the student submitting the best collection of sketches. The first winner, Miss Anne Splaine, was presented with the cup by Mr. Spragg. A competition for the design of a tennis pavilion was organized for the students, and the winners received their awards from Mr. Spragg.

The toast of the Branch was proposed by Mr. P. C. Newcombe [*F*], Senior Vice-President of the N.A.A., who took the place of the President, Mr. Austin Child [*F*], who was unable to be present through illness. He gave the Branch his best wishes for a continued successful life and brought the greetings of the President. Mr. S. W. Milburn [*F*], of Sunderland, seconded the proposition. Mr. J. P. Rudd, the Chairman, responded, and called upon Mr. Arthur Harrison [*F*], a founder member, to recount the story of the formation of the Branch.

Mr. G. P. Stainsby [*A*], for many years a prominent member of the Branch, proposed the toast 'The Tees-side Area'. He spoke of the rapid growth of the heavy industry on Tees-side and forecast a more prosperous future for the area when the proper balance between light and heavy industry was achieved. The Mayor of Middlesbrough, Councillor F. C. Pette, J.P., responded. The toast of the visitors was proposed by Mr. A. E. Tornbohm [*A*], Borough Architect of Darlington. Mr. Spragg responded, and spoke of the direct connections the Branch has with the R.I.B.A. and also through the Association. A pleasant evening was concluded with a display of films by the Central Office of Information.

York and East Yorkshire Architectural Society

The Annual Dinner and Dance of the Society was held on 1 April 1949 at the Royal Station Hotel, Hull. Mr. A. Graham Henderson [*F*], Vice-President, R.I.B.A., was the Guest of Honour. Mr. C. D. Spragg, C.B.E., Secretary, R.I.B.A., was present.

Mr. Andrew Rankine, O.B.E. [*A*], President of the Society, proposed the toast of the R.I.B.A., and he referred to the educational value of the Institute, stating that during its period of existence the R.I.B.A. had rendered great public service in this direction. Mr. Graham Henderson responded, and he agreed with Mr. Rankine that education was the only means by which we shall maintain our status in any branch of endeavour, particularly in architecture.

The toast of the City of Kingston-upon-Hull was proposed by Mr. A. Newton Thorpe [*F*], who said that it was impossible to launch extensive schemes of reconstruction in these times of shortages and rigid economy, and the Deputy Lord Mayor of Hull, Alderman Isaac Robinson responded.

Mr. Charles Oliver [*L*] proposed a toast to 'Our Guests', and the Town Clerk of Hull, Mr. E. M. Bullock, replied.

Essex, Cambridge and Hertfordshire Society of Architects: 1948 Activities

In May the season opened with a conducted tour over Benskins Watford Brewery under the guidance of the Company's architect, Mr. J. C. F. James, who explained the various stages of brewing, and the outing culminated in a visit to the Sampling Department, which left a favourable impression on all present! This was followed in June by a visit to the New Plastics Division, I.C.I., Welwyn Garden City. Explanatory talks were given in each Department by separate speakers. A party of thirty-three members was granted the freedom of Hatfield Aerodrome in July, when De Havilland's architect, Mr. J. M. Monro, and some of his staff explained the production line and assembly of parts, including research on the new gas turbine.

In August, Mr. Aslin, County Architect, and some members of his staff provided a most interesting visit to the new schools at Cheshunt and Essenden, where the latest developments in prefabricated school construction were inspected and explained.

Cambridge was the venue for the September outing when the local Chapter arranged a conducted tour of the colleges, under the leadership of Mr. Gomme and two colleagues.

In October Mr. J. H. Leech, Past Chairman, delivered a most informative and interesting illustrated talk on 'The Pipe Organ—its construction, design and position in cathedrals, churches and other buildings', covering the various stages in the development of pipe organs from first principles to modern installations. In December a three-day exhibition was arranged in the Watford Public Library, when the R.I.B.A. Housing Exhibition was on view to the public. This was supported on the opening night by a programme of films on Housing and Town Planning, and the competition prize was presented to the winner.

GENERAL NOTES

Town and Country Planning Act, 1947: Development Charges

The Practice Committee wish to draw the attention of members to the pamphlet recently issued by the Central Land Board entitled 'Practice Notes (First Series), being Notes on Development Charges under the Town and Country Planning Act, 1947.'

Particular attention is called to paragraph 117 of the Notes dealing with the procedure for obtaining informal advice from the District Valuer at an early stage. This paragraph reads as follows:

'117. INFORMAL ADVICE FROM DISTRICT VALUER — *The Board realize that in some cases, possibly before the land is purchased or sold, or possibly to prevent the unnecessary preparation of plans or drawings, informal discussions with the Board's professional advisers—the Valuation Office—may be both proper and useful before the formal D.1 is submitted. The Chief Valuer has authorized District Valuers to discuss informally with owners intending to operate Method B of "House 1" (Appendix B),* bona fide *developers, or their professional advisers, questions relating to the amount of development charges in respect of land which they propose to develop shortly, or to dispose of for early development on the basis of Method B. It is essential, however, that such persons should be able to furnish the District Valuer with sufficient details of the development intended to enable an approximate assessment of the likely development charge to be made. The Board entirely concur in this practice, but hope that its use will be confined to cases of real importance—otherwise the timetable of determinations and other work must suffer. This informal approach must, of course, never involve formal valuations, and informal assessments will be subject to review when a formal application is eventually made.*'

The Practice Notes are obtainable from H.M. Stationery Office, price 1*s.* net.

R.I.B.A. Golfing Society. Meeting held at Sunningdale

A meeting of the R.I.B.A. Golfing Society was held on Wednesday 20 April at Sunningdale Golf Club. The results were as follows: The Sullivan Trophy was won by G. Felix Wilson with a score of 78 — 6 = 72. Runner-up A. H. Walker 80 — 5 = 75.

The afternoon 4-ball bogey competition was won by F. W. Charity and H. L. Bloomfield with a score of 4 up.

A Publication on Acoustics by the Acoustics Group

The Acoustics Group of the Physical Society announce the publication of the papers and discussions on acoustics and sound absorption connected with their 1947 Symposium. They contain the most complete description of the important new group of sound absorbents which are based on the use of panels of various kinds. These have largely resulted from work done in Sweden and Denmark in recent years,

and architects who have been to those countries lately will know how big a part they play in modern design there. This is the first publication in English which covers the whole range of these new techniques, and many architects should find them immediately useful.

The publication also contains a review of modern views on reverberation, a paper by Hope Bagenal on the historical development of acoustical characteristics in halls, and a paper by Dr. Alex Wood in which the present position of acoustics in all fields is reviewed. Dr. Wood collaborated with Mr. Bagenal in a book well known to architects, and this is his inaugural paper to the Group.

Copies of the publication may be obtained from the Physical Society at 1 Lowther Gardens, Prince Consort Road, S.W.7. The price is 7*s.* 6*d.* plus 6*d.* for postage. The publication is entitled *Resonant Absorbers and Reverberation.*

Correction

We regret that the Berlei factory at Slough, illustrated on page 261 of the April JOURNAL, was wrongly attributed. The correct attribution should have been: 'Architects: Sir John Brown, A. E. Henson and Partners [*F*/*F*] in association with W. David Hartley [*F*].'

Sydney University Starts New Course in Town and Country Planning

Professor Denis Winston, M.A. [*F*], who recently went to Australia as Professor of Architecture at Sydney University, has sent particulars of a new course of instruction in Town and Country Planning started there on 29 March 1949.

Lectures are given in the first year in Planning Theory and Practice, Architecture, Geography and Geology as related to Planning, Outlines of Social and Economic Organization and the History of Town and Country Planning. It is a two-year post-graduate course leading to a University Diploma in Town and Country Planning and practical work and field excursions are provided for both years.

The second year embraces the additional subjects of landscape architecture and horticulture, civil engineering, surveying and valuation as related to Planning and Public Administration and Town Planning Law.

Candidates pay £21 per annum for the course and the fee for the Diploma is £3.

Notes from the Minutes of the Council

MEETING HELD TUESDAY 5 APRIL 1949

R.I.B.A. Registration Committee: The Secretary reported that Lieut.-Colonel V. H. Seymer [*F*], had been elected Chairman of the R.I.B.A. Registration Committee in succession to Mr. Darcy Braddell [*F*], and thus became, *ex officio*, a member of Council.

Appointments:

(A) Joint Tribunal on the Standard Form of Contract: Mr. P. G. Fairhurst [*F*], in place of Mr. Michael Waterhouse (President).

(B) Building Apprenticeship and Training Council: R.I.B.A. Representative: Mr. A. H. Moberly [*F*], re-appointed.

(C) National Register of Electrical Installation Contractors: R.I.B.A. Representative: Mr. Cecil Perkins [*A*], re-appointed.

Note.—Second representative: Mr. J. E. K. Harrison [*F*].

(D) Ministry of Works: Codes of Practice Committee: R.I.B.A. Representative on new Executive Committee: Mr. Stanley Heaps [*F*].

(E) B.S.I. Committee—ACM/2: Acoustics. R.I.B.A. Representative: Dr. J. L. Martin [*F*].

The Royal Scottish Academy: The Council noted with pleasure the election of Mr. W. H. Kininmonth [*F*] as an Associate of the Royal Scottish Academy, and by a unanimous vote the Secretary was instructed to convey their cordial congratulations to him.

Sculpture and Mural Painting in Relation to Architecture: The Council considered a letter from the Ministry of Works in reply to the representations made previously, and members expressed disappointment at the rejection of their proposal that a definite allocation of a proportion of building costs should be made towards the adornment of public buildings by means of sculpture, murals, etc.

Mr. H. S. Goodhart-Rendel [*F*] and Mr. E. Maxwell Fry [*F*] were appointed to meet representatives of the Ministry of Works and express the Institute's views on the matter.

The Secretary reported that the Lancashire County Council Education Committee had recently decided to allot one-half of 1 per cent of the cost of their new schools for the purpose of adornment.

Mr. D. E. E. Gibson [*F*] stated that Coventry City Council had made a similar decision.

R.I.B.A. Architecture Bronze Medal: Essex, Cambridge and Hertfordshire Society of Architects: The Council approved the recommendation of the jury appointed by the Essex, Cambridge and Hertfordshire Society of Architects that the R.I.B.A. Architecture Bronze Medal for the period 1938-48 be made in favour of the Roche Products Building at Welwyn Garden City, designed by the late Professor Otto Rudolf Salvisberg [Hon. Corresponding Member, Switzerland], in association with Mr. C. S. Brown.

Festival of Britain 1951: The Council considered correspondence with Mr. Hugh Casson [*A*], Director of Architecture, Festival of Britain, in which a scheme had been proposed in connection with the Festival of Britain 1951, for awarding emblems to buildings, groups of buildings, 'Improvements' or pieces of landscaping open to external public view in any part of Great Britain begun and completed within a certain period since the war.

The award would be made by the Council of Architecture, Festival of Britain, who would be responsible for the administrative arrangements in connection with it.

After some discussion, the Council agreed to assist in the administrative arrangements, but it was decided to press for a revision of the period of eligibility so that the opening and closing dates should be 15 August 1945 (V.J. Day), and 1 January 1951 respectively.

Grants: The Council approved the following list of grants for the year 1949-50: British School at Rome £750, Architects' Benevolent Society £150, British School of Archæology at Athens £50, British Standards Institution £26 5*s.*, Parliamentary and Scientific Committee £26 5*s.*, Council for the Preservation of Rural England £50, Association for the Preservation of Rural Scotland £10, Council for the Preservation of Rural Wales £7, International Federation for Housing and Town Planning £5, British School at Rome, Faculty of Archælogy £3 3*s.*

Supplementary Petrol Allowance for Architects: On the recommendation of the Practice Committee it was agreed to make representations to the Minister of Fuel and Power urging that a supplementary petrol allowance be made to architects for the purpose of their general practice, thus extending the existing concession by which such an allowance is admissible only in connection with housing contracts.

Town and Country Planning Act 1947: Fees for Professional Services: At their meeting on 14 December 1948 the Council approved the adoption of the scale of fees issued by the Royal Institution of Chartered Surveyors for services in connection with claims for depreciation of land values under Part VI of the Town and Country Planning Act, 1947.

The question of fees in respect of determination of development charges was left over.

The Council have now decided on the recommendation of the Practice Committee to adopt the scale drawn up by the Royal Institution of Chartered Surveyors for determination of development charges under Part VII of the Act.

The scale in question follows. In reading paragraph (*b*) of the scale the expression in line 2 'relevant parts' is to be interpreted as referring only to those sections of Form D.1, with which the surveyor is directly concerned: *The Royal Institution of Chartered Surveyors, 12 Great George Street, Westminster, S.W.*1.

The following Scale of Fees for professional services in connection with determination of development charges under Part VII of the Town and Country Planning Act, 1947, has been authorized by the Council of the Institution in consultation with the Land Agents' Society, the Chartered Auctioneers' and Estate Agents' Institute and the Incorporated Society of Auctioneers and Landed Property Agents:

WORK IN CONNECTION WITH DETERMINATION OF DEVELOPMENT CHARGES, OTHER THAN IN CASES WHICH INVOLVE THE WORKING OF MINERALS (Scale 32B)

(*a*) The rates shown in the scale below must be treated as a general guide, and should be applied with discretion. The intricacy and difficulty of the services rendered are likely to vary considerably, according to the type of property and other circumstances which may arise in a particular case. The rates of remuneration, therefore, should not be regarded as rigid, and, if the scale fee in any given case appears too high or too low in relation to the work done, it should be adjusted to the circumstances.

(*b*) The fee in each case covers inspection, completion of the relevant parts and submission of the prescribed form, and negotiations with a view to a settlement with the appropriate authority.

(*c*) The fees shown below are in all cases exclusive of travelling and other expenses, disbursements, copies of documents and lithography.

1. In cases where valuations are made to determine liability for development charge and the amount thereof (if any):

5 guineas per cent on the first	£100	of the value, with planning permission of the unit which it is necessary to value in order to determine the liability for development charge and the amount thereof (if any).
2 guineas per cent on the next	£400	ditto
1 guinea per cent on the next	£500	ditto
½ guinea per cent on the next	£49,000	ditto
¼ guinea per cent on the remainder		ditto

2. In all other cases: Fee by arrangement, depending on the extent of the responsibility involved and the other circumstances of the particular case.

(NOTE.—Scale 32 (for preparing or advising on claims for depreciation of land values under the Town and Country Planning Act, 1947) of the Schedule of Professional Charges (1948 Edition) is renumbered Scale 32A.)

Membership: The following members were elected: as Honorary Associate, 1; as Fellows, 8; as Associates, 65; as Licentiates, 7. Students: 58 Probationers were elected as Students.

Applications for Election: Applications for election were approved as follows: *Election 3 May* 1949: as Fellows, 8; as Associates, 33; as Licentiates, 6. *Election October* 1949 (*Overseas Candidates):* as Fellows, 2; as Associates, 2.

Applications for Reinstatement: The following applications were approved: as Fellow, Frank Clemes; as Associate: Francis William Marshall [*Retd. A*].

Resignations: The following resignations were accepted with regret: William Carter Fenton [*F*], Thomas Harrison Thorpe [*F*], Francis Elliss Wapshott [*F*], Alfred James Manton [*L*].

Applications for Transfer to Retired Members' Class under Bye-law 15: The following applications were approved: as Retired Fellows: Alexander Smeaton Robertson, Gilbert MacKenzie Trench; as Retired Associates, Arthur Rowland Holman, William Joseph Mate Thomasson; as Retired Licentiate, Archibald Fowler Smith.

Membership Lists

ELECTION: 5 APRIL 1949

The following candidates for membership were elected on 5 April 1949.

AS HON. ASSOCIATE (1)

Hobhouse: Sir Arthur, Castle Cary, Somerset.

AS FELLOWS (8)

De Segrais: Joseph John [*A* 1933].
Hope: Arthur Fentem [*A* 1927], Manchester.
and the following Licentiates who have passed the qualifying Examination:
Archard: Alfred Joseph Hodsdon (Major).
Banks: Edward Harry.
Courtney-Dyer: Kenneth Patrick James.
Edwards: Sidney Roy (Captain), Plymouth.
Engle: Bernard.
Marmorek: Walter Hans.

AS ASSOCIATES (65)

Abramowitch: Sidney Arnold, B.Arch. (Rand), Johannesburg, South Africa.
Almeida: Anthony Bosco, Dar-es-Salaam, East Africa.
Beattie: George Copeland, Pitlochry.
Belaugi: Mallreddi Hanamareddi, Bombay.
Bravington: Fruin Bruce Charles, B.A.
Burton: Reginald Rogerson, Hale, Cheshire.
Bustard: Edward Harcourt, Dip.Arch.
Cathcart: Stuart Barron, Brighton.
Clay: William Paffard McKinley Keatinge, Stockbridge, Hants.
Contractor: Love Motabhoy, Bombay, India.
Davies: Charles Ewart, Durham.
Day: John Bertram, Bristol.
Doherty: James Anthony, Oldham.
Fearon: Patrick Joseph, B.Arch., Dublin.
Gabb: Maurice John, Nottingham.
Godbole: Ramchandra Sadashiv, Bombay, India.
Griggs: Cyril Percy.
Harington: Raymond Kelston.
Horrell: Herbert Bernard, B.Arch. (Cape), Pretoria, S. Africa.
Howitt: William Fowler, Dip.Arch. (Dundee), Perth, Scotland.
Hubble: John Brian.
Hume: Charlotte (Mrs.), Kingston-on-Thames.
Hyams: Norman John.
James: Peter Geoffrey, Nottingham.
Jayavant: Dattatraya Atmaram, Thana (G.I.P.), India.
Khachadourian: Levon Minas.
Kenchington: Martin Herbert, Oxhey, Herts.
Kothare: Vishnoo Ramrao, Bombay, India.
Lamb: Josephine Mary (Miss), West Bridgford, Notts.
Langrick: Arthur, Dip.Arch. (Nottingham), Worksop, Notts.
Lawson: Peter Frederick John.
Livock: Alec Gage, Woking, Surrey.
Lush: Cecil.
McCormick: John, Glasgow.
Mackenzie: Callum Duncan Malcolm Donald Charles Allan Ross, M.C., B.Sc., B.Arch. (Dist.) (Cape Town), Salisbury, Southern Rhodesia.
Martin: Hermione Joan (Miss).
Mason: Howard Neil, B.Arch. (Hons.) (Lvpl.), Liverpool.
Newcombe: Arthur Sidney, Dip.Arch.
Palshikar: Shripad Shankar, Bombay, India.
Patten: Ronald Arthur, Westcliff-on-Sea, Essex.
Patterson: Jack Gibson, B.A., B.Arch., Auckland, New Zealand.
Peiris: Peter Henry Wilson, Cambridge.
Potter: Peter, Dip.Arch., Purley, Surrey.
Proctor: William Douglas, Bristol.
Radford: John, Budleigh Salterton, Devon.
Ree: James Ramsay, Dip.Arch. (Dundee), Forfar, Angus.
Rhys-Davies: Walter William Miall (Captain), Neath, Glamorgan.
Rice-Oxley: Mervyn Douglas, Jersey, C.I.
Richards: Leonard John, Hereford.
Richards: Reginald Anthony Kennard, Hereford.
Ruth: Robert Alaster Hugh, Chorleywood, Herts.
Schiller: Paul, Parkside, South Australia.
Sinclair: Kenneth Stanley Innes, Wadhurst, Sussex.
Smith: Christopher Stuart Beale, Leamington Spa.
Stein: Jacob Joseph, B.Arch. (Cape Town), Port Elizabeth, South Africa.
Stuart: William Livingstone, Perth, Scotland.
Sweetapple: Ernest Frank, Sidmouth, Devon.
Vaughan-Ellis: George Rodney.
Ventris: Lois (Mrs.).
Vokes: Wyndham Melhuish, Cardiff.
Walker: Brenda Anne (Miss), Weybridge, Surrey.
Warren: Robert Lancelot, M.C., Sutton-in-Ashfield, Notts.
Webber: Alexander MacKenzie, Liverpool.
Williams: Richard Hugh, Cardiff.
Williamson: Donald Frank Armstrong, M.C., High Wycombe, Bucks.

AS LICENTIATES (7)

Burke: Arthur Frederick.
Clark: Edwin Thomas.
Duley: Edward Alfred.
Johnson: Clement Park.
May: Reginald John.
Singer: Oscar.
Wallace: John.

ELECTION: 21 JUNE 1949

An election of candidates for membership will take place on 21 June 1949. The names and addresses of the candidates with the names of their proposers, found by the Council to be eligible and qualified in accordance with the Charter and Bye-laws, are herewith published for the information of members. Notice of any objection or any other communication respecting them must be sent to the Secretary, R.I.B.A., not later than Tuesday 7 June 1949.

The names following the applicant's address are those of his proposers.

AS FELLOWS (5)

Bell: Brian, Dip.Arch. (Lond.), Dip.T.P. (Lond.), M.T.P.I. [*A* 1931], County Planning Officer, County of Lincoln—Parts of Kesteven, County Offices, Sleaford, Lincs; 28 St. Edmund Road, Sleaford. Prof. H. O. Corfiato, L. S. Stanley, Eric Ambrose.

Goodin: Frederick Glanville [*A* 1927], Hammersmith School of Building and Arts and Crafts, Lime Grove, Shepherds Bush, W.12; 113 Twyford Avenue, West Acton, W.3. H. W. Mole, Prof. A. E. Richardson, Prof. H. O. Corfiato.

Hall: Lt.-Col. Douglas [*A* 1929], Masonic Buildings, High Street, Bangor, N. Wales; Mullion Cottage, Meirion Lane, Bangor. P. M. Padmore, B. P. Davies, Robert Pierce.

Martindale: Christopher Bernard [*A* 1941], Cathedral Chambers, Castle Street, Carlisle; 'Moor Yeat,' Wetheral, Cumberland. C. J. F. Martindale, S. E. Dykes Bower, G. E. Charlewood.

Pace: George Gaze [*A* 1939], War Office (Lands Branch); 'Woodlea,' Skelton, Yorks. Darcy Braddell, Humphry Deane, Joseph Addison.

AS ASSOCIATES (36)

The name of a school, or schools, after a candidate's name indicates the passing of a recognized course.

Ardley: John Graham (The Poly., Regent Street, London: Sch. of Arch.), 'Wayside,' 14 Crosby Road, Westcliff-on-Sea. J. S. Walkden, Denis Clarke Hall, Edward Armstrong.

Arnold: Muriel Kathleen (Miss) (Arch. Assoc. (London), Sch. of Arch.), 50 Dolphins Road, Folkestone, Kent. W. S. Willan, J. L. S. Dahl, R. F. Jordan.

Burbidge: Richard Ferrier (The Poly., Regent Street, London: Sch. of Arch.), 51 Beattyville Gardens, Ilford, Essex. J. S. Walkden, F. Q. Farmer, David Jenkin.

Carpenter: Leonard William (Arch. Assoc. (London): Sch. of Arch.), 78 Richmond Road, Thornton Heath, Surrey. R. F. Jordan, A. R. F. Anderson, H. G. Goddard.

Colquhoun: Ian (Arch. Assoc. (London): Sch. of Arch.), 7 Redcliffe Gardens, S.W.10. R. F. Jordan, A. R. F. Anderson, H. G. Goddard.

Cox: Oliver Jasper (Arch. Assoc. (London) Sch. of Arch.), 28 Gloucester Road, Teddington. R. F. Jordan, F. R. S. Yorke, Frederick Gibberd.

Craig: Cameron Nares, M.A. (Cantab) [Final], 30 Gordon Mansions, Torrington Place, W.C.1. C. W. Box, R. F. Jordan, Howard Robertson.

Davies: William Haydn (Welsh Sch. of Arch.: The Tech. Coll., Cardiff), 16 Morfa Avenue, Port Talbot, Glamorgan. Lewis John, E. E. Morgan, E. D. Jones.

Flaxman: Percival William (Arch. Assoc. (London): Sch. of Arch.), 9 Banstead Road, Purley. R. F. Jordan, Herbert Tayler, D. J. Green.

Fleming: **Margaret Ann (Miss)** [Final], 25 Portland Street, Gillygate, York. G. D. G. Hake, A. B. Grayson, Kenneth Ward.

Gilmour: **Gavin James** (Edin. Coll. of Art: Sch. of Arch.), 6 Pitcullen Terrace, Perth. Leslie Grahame-Thomson, W. I. Thomson, J. R. McKay.

Goddard: **Arthur Gordon** [Final], 105 Fettiplace Road, Barton, Oxford. E. M. Rice, David Beecher, T. L. Dale.

Harris: **John Robert** (Arch. Assoc. (London): Sch. of Arch.), Brook Place, Chobham. R. F. Jordan, H. G. Goddard, L. H. Bucknell.

Ingall: **Howard George** [Final], 110 Avenue Road Extension, Clarendon Park, Leicester. F. Chippindale, S. Penn Smith, G. A. Cope.

Kershaw: **Kathleen (Miss)**, (Leeds Sch. of Arch.), 688, Huddersfield Road, Ravensthorpe, Dewsbury, Yorks. N. R. Paxton, R. E. M. Coombes, C. Sunderland.

Ladd: **Audrey Edwina (Miss)**, (The Poly., Regent Street, London: Sch. of Arch.), 6 Broadhurst Gardens, Reigate, J. S. Walkden, David Jenkin, Anthony Minoprio.

Lewis: **Arthur Herbert** (Arch. Assoc. (London): Sch. of Arch.), 66 Marshals Drive, St. Albans. R. F. Jordan, A. R. F. Anderson, H. G. Goddard.

Lewis: **Thomas William John** [Special Final], 55 Fulford Grove, Carpender's Park, Oxhey, Watford. D. F. Ingleton, H. F. Hoar, A. R. Borrett.

McArthur: **John David** (Leicester Coll. of Art & Tech.: Sch. of Arch.), 1 Wensleydale Road, Corby, Northants. F. Chippindale, S. Penn Smith, G. A. Cope.

McLachlan, **James Morham** (Edin. Coll. of Art: Sch. of Arch.), 36 Plewlands Gardens, Edinburgh 10 Basil Spence, W. I. Thomson, A. H. Mottram.

Martin: **Beryl Audrey (Miss)** [Final], 10 Spring Park Avenue, Shirley, Surrey. Paul Nightingale, D. Nightingale, A. H. Archard.

Masters: **Peter Henry** [Final], 33 Dorchester Road, Worcester Park, Surrey. A. D. Sayers, C. G. Toy, C. H. Lay.

Mears: **Christopher Bass** (The Poly., Regent Street, London: Sch. of Arch.), 41 Handen Road, Lee, S.E.12. J. S. Walkden, David Jenkin, H. M. Fairweather.

Miles: **Godfrey Ellis** (Leicester Coll. of Art and Tech.: Sch. of Arch.), 15 Fitzroy Square, W.1. F. Chippindale, S. Penn Smith, G. A. Cope.

Morgan: **Llewellyn Howell** (Northern Poly. (London): Dept. of Arch.), 271 Royal College Street, Camden Town, N.W.1. T. E. Scott and applying for nomination by the Council under Bye-law 3 (*d*).

Mulhall: **Bernard** [Final], 24 Woodfield Avenue, Accrington. Herbert Jackson, H. W. Weedon, Samuel Taylor.

Munro: **Neil Gordon Macleven**, M.B.E. (Arch. Assoc. (London); Sch. of Arch.), 32 Parkway, Welwyn Garden City, Herts. R. F. Jordan, H. G. Goddard, L. H. Bucknell.

Paul: **Richard Charles Newcomb** (Arch. Assoc. (London); Sch. of Arch.), 73 King Henrys Road, Hampstead, N.W.3. R. F. Jordan, A. R. F. Anderson, H. G. Goddard.

Riding: **Joseph Walter** [Final], 10 Fairmount Avenue, Breightmet, Bolton. G. N. Hill, F. N. Pinder, H. H. Smith.

Robinson: **Edmund Joseph** [Special Final], 23 Clarence Green, Newton Aycliffe, Co. Durham. Mrs. M. P. Cahill, Prof. R. A. Cordingley, F. L. Halliday.

Robinson: **Stanley** (Arch. Assoc. (London); Sch. of Arch.), 45 Clifford Road, New Barnet, Herts. R. F. Jordan, L. H. Bucknell, R. E. Enthoven.

Smith: **Warren Keith** [Special Final], 'The Holly Tree,' Hids Copse Road, Cumnor Hill, Oxford. H. W. Smith, Thomas Rayson, G. R. Hutton.

Stern: **David** (Arch. Assoc. (London): Sch. of Arch.), 24 Belvedere Court, Lyttelton Road, N.2. R. F. Jordan, R. E. Enthoven, L. H. Bucknell.

Tingey: **Francis John** [Final], 4 Ventnor Gardens, Barking. C. C. Shaw, K. J. Lindy, E. C. Scherrer.

Walker: **Robin Andrew Day**, B.Arch. (Univ. Coll., Dublin, Ireland: Sch. of Arch.), Vailima, Baily, Dublin. Prof. J. V. Downes, P. J. Munden, S. S. Kelly.

Woodcock: **George Frederick Henry** [Final], 55 Westwood Road, North End, Portsmouth. A. C. Townsend, A. J. Sharp, J. V. Quarmby.

AS LICENTIATES (10)

Anderson: Joseph Wilson, 24 South King Street, Blackpool; "Silverholme", 203 St. Walburgas Road, Blackpool. C. H. MacKeith, F. L. Lumb, H. T. Jackson.

Ashbourne: John Robert Charles, Borough Engineer and Surveyor's Dept., Town Hall, Bethnal Green, E.2; 35 Sandyhill Road, Ilford, Essex. B. W. Stuttle, I. B. M. Hamilton, and applying for nomination by the Council under Bye-law 3 (*d*).

Chapman: Reginald Charles, 'San Michele,' Shepherds Hill, Merstham, Surrey. I. F. Roberts and the President and Hon. Sec. of the S.E.S.A. under Bye-law 3 (*a*).

Goodwin: Norman Leslie, 20 Fairfield Close, Shoreham-by-Sea, Sussex. T. S. Tait, Sir Hubert Worthington, R. P. Watson.

Huskinson: Cecil, 43, Upper Lattimore Road, St. Albans, Herts; Highmoor, Westfield, Harpenden. A. E. Bullock, and applying for nomination by the Council under Bye-law 3 (*d*).

Northover: Kenneth Henry (Major), 6 Ox Lane, Tenterden, Kent. Lieut.-Col. A. E. Henson, Lieut.-Gen. Sir John Brown, T. S. Darbyshire.

Pierce: Victor Rupert, c/o Messrs. Benz and Williams (*F/A*), 53 Gildredge Road, Eastbourne; 'Littledean,' 10 Wish Hill, Willingdon, Eastbourne. F. C. Benz, H. H. Ford, R. W. Stevenson.

Ross: John Sutherland, Castle Brae, Tain, Scotland; 3 Ardross Place, Inverness. J. A. Ross, W. J. Taylor, Alexander Cullen.

Thompson: Cecil Maunsey, 'Parklands,' Park Road, Cowes, I.o.W. G. T. Brown, S. W. Milburn, W. Milburn.

Yates: Ernest Archibald, Borough Engineer's Dept., Hendon Borough Council; 'Tudor Lodge', Wise Lane, Mill Hill, N.W.7. S. Stern, C. G. Stillman, F. T. Winter.

ELECTION: OCTOBER 1949

2nd LIST

An election of candidates for membership will take place in October 1949. The names and addresses of the overseas candidates, with the names of their proposers, are herewith published for the information of members. Notice of any objection or any other communication respecting them must be sent to the Secretary, R.I.B.A., not later than Saturday 27 August 1949.

The names following the applicant's address are those of his proposers.

AS ASSOCIATES (8)

The name of a school, or schools, after a candidate's name indicates the passing of a recognized course.

Chadwick: Kathleen Mary (Miss) (Northern Poly. (London): Dept. of Arch.), c/o Overseas Food Corporation, P.O. Box, Kongwa, Tanganyika Territory. T. E. Scott, and applying for nomination by the Council under Bye-law 3 (*d*).

Dixon: Frank Horace Cedric (Passed a qualifying exam. approved by the I.S.A.A.), Plot 101, Beethoven Street, Vanderbijl Park, Windhoek, South Africa. Applying for nomination by the Council under Bye-law 3 (*d*).

Dodds: Edward Gordon (Bartlett Sch. of Arch.: Univ. of London), Avenida Fernandez 386, Temperley F.C.S., Prov. Buenos Aires, Argentina. S. G. Follett, L. S. Stanley, Prof. H. O. Corfiato.

Linton-Smith: John (Passed a qualifying exam. approved by the R.A.I.A.), 22 Courtenay Road, Rose Bay, N.S.W., Australia. C. C. Ruwald, Frederic Towndrow, H. G. Turner.

Moxley: Peter Knight (Passed a qualifying exam. approved by the I.S.A.A.), 155 St. Thomas Road, Berea, Durban, South Africa. E. M. Rice, E. B. Glanfield, Edgar Farrar.

Stephenson: Arthur Peter (Passed a qualifying exam. approved by the R.A.I.A.), 16 Barrack Street, Sydney, N.S.W., Australia. Prof. Leslie Wilkinson, G. L. Moline, D. K. Turner.

Todd: Robert Arthur (Passed a qualifying exam. approved by the I.S.A.A.), c/o Messrs. Nurcombe, Summerley and Lange, Jubilee House, Simmonds Street, Johannesburg, S. Africa. D. L. Nurcombe, A. S. Furner, K. E. F. Gardiner.

Walters: Samuel Hendrik (Passed a qualifying exam. approved by the I.S.A.A.), Hotel Marseilles, Marais Road, Sea Point, Cape Town, South Africa. D. R. Harper, C. P. Walgate, C. D. St. Leger.

The Architects' Special Motor Car Insurance at Lloyd's

The Architects' Benevolent Society's Insurance Committee in conjunction with a firm of Lloyd's Insurance Brokers have devised a Special Motor Car Policy for Architects. This policy and the special advantages to be gained from it are available only to members of the Royal Institute of British Architects and its Allied and Associated Societies.

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Members' Column

This column is reserved for notices of changes of address, partnership and partnerships vacant or wanted, practices for sale or wanted, office accommodation, and personal notices other than for posts wanted as salaried assistants for which the Institute's Employment Register is maintained.

APPOINTMENTS

Mr. C. F. Bates [*F*] has succeeded **Lieut.-Colonel E. H. Fawckner., D.L., T.D.** [*F*] as Architect to the Monmouthshire Territorial and Auxiliary Forces Association.

Mr. J. M. Harrison [*A*] has been appointed Architect to the London Midland Region, British Railways, and has left a similar appointment to the Eastern Region.

Mr. J. A. Maudsley [*A*], Chief Architectural Assistant, Hornsey Borough Council, has been appointed Deputy County Architect to the West Suffolk County Council.

Mr. P. R. Middleton [*A*], who has recently taken up duty as Architect to the Education Committee, County Borough of Middlesbrough, would be pleased to receive trade catalogues etc. at the Education Offices, Woodlands Road, Middlesbrough.

Mr. W. Porter Mitchell, A.M.T.P.I. [*A*], lately Chief Assistant Architect, Borough Architect's Department, Dewsbury, has taken up an appointment as Chief Architect, Burton-upon-Trent.

Mr. M. Nicolson [*L*] has been appointed Senior Architect to the Overseas Food Corporation, and will be pleased to receive trade catalogues. His address is Architect's Department, Overseas Food Corporation, P.O. Kongwa, Tanganyika Territory.

Mr. P. Kennerell Pope [*A*] has resigned his appointment as Chief Assistant Architect in the City Engineer's Department, Bath. He has entered into partnership with **Ernest Tew and Oliver** [*A*/*A*], 7 Northumberland Buildings, Bath, and will be pleased to receive trade catalogues etc.

Mr. Sidney Toy, F.S.A. [*F*], has been appointed architect for the remodelling of the cathedral at Nassau, Bahamas, W. Indies, and is at present there to carry out preliminary investigations of the project.

Mr. Stanley W. Warn [*A*] was appointed Deputy County Architect to the Cornwall County Council on 9 May; he was formerly Section Head (Education) in the Bristol City Architect's Department. Mr. Warn's new address for all communications will be County Hall, Truro, Cornwall.

Mr. W. A. Woodland [*F*], formerly a Divisional Architect of the Miners' Welfare Commission, and also of the Welfare Building Branch of the National Coal Board, has been appointed Divisional Architect to the West Midlands Division, National Coal Board, at Himley Hall, near Dudley, Worcs.

PRACTICES AND PARTNERSHIPS

The County Architect of Aberdeen would be pleased to receive trade catalogues etc. at 25 Union Terrace, Aberdeen.

Mr. J. R. Anderson [*F*] is now in practice at York House (First Floor), Stanley Avenue, Salisbury, Southern Rhodesia, and will be pleased to receive trade catalogues etc.

From 1 April 1949 the practice of **Archard and Worrow** [*F*/*A*] was amalgamated with the practice of **Mr. Ronald Hardy** [*A*]. The partnership now practises under the name of **Archard, Worrow and Hardy,** from 20 Lowndes Street, Knightsbridge, London, S.W.1. (SLOane 3668 and 3378.)

Mr. W. Caparne Baldry [*L*] has taken into partnership **Mr. Maurice J. Gabb** [*A*], and will practise at 30 Regent Street, Nottingham, under the style of **W. Caparne Baldry and Gabb.** The telephone number is Nottingham 42842.

The partnership of **Mr. W. R. Bennett** [*L*] and **Mr. R. R. Wilkins** [*A*], under the name of **J. Stanley Beard, Bennett and Partners,** will in future be known under the name of **J. Stanley Beard, Bennett and Wilkins.** The address is still 101-3 Baker Street, London, W.1. (WELbeck 2858.)

Mr. Ian Caldwell [*L*], who has resigned the post of Senior Planning Assistant with Lindsey County Council, is returning to private practice. His temporary office address will be 1 St. John's Road, Newport, Lincoln (Lincoln 10853), where he will be pleased to receive trade catalogues etc.

Mr. A. E. Cresswell [*A*], Resident Architect, Handley Page, Ltd., Claremont Road, London, N.W.2, will be pleased to receive trade catalogues etc.

Mr. Peter Dunham [*F*] has taken into partnership **Mr. F. Macfarlane Widdup** [*A*] and **Mr. C. Gurney Burgess** [*L*], and they will now practise as the **Peter Dunham Group** from new offices at 42-44 Hastings Street, Luton, Beds (Luton 4482). They will be pleased to receive trade catalogues etc.

Mr. J. Godfrey-Gilbert [*A*] has commenced practice from 1 Kerry Avenue, Stanmore, Middx. (Grimsdyke 1668), and will be pleased to receive trade catalogues etc.

Mr. Donald Hamilton [*L*] and **Mr. Kenneth Wakeford** [*A*] have taken into partnership **Mr. Charles Jerram** [*A*] and **Mr. Cecil Harris** [*L*]. The firm will continue to practise at 7 Connaught Place, Hyde Park, London, W.2, under the style of **Donald Hamilton, Wakeford and Partners.**

Mr. W. Stanley Hattrell [*F*], **Mr. Duncan Kaye** [*A*] and **Mr. Norman R. Branson** [*A*] have taken into partnership **Mr. Savile Greenwood,** B.Arch. [*A*]. The firm will continue to practise under the name of **W. S. Hattrell and Partners** at 1 Queen's Road, Coventry, and 14 Hanover Square, London, W.1. **Mr. N. R. Branson** being resident at the London office.

Mr. William Hughes [*A*] has commenced practice at 7 St. John's Square, Cardiff, where he will be pleased to receive trade catalogues etc.

Mr. Reginald W. Johnston, A.M.T.P.I. [*A*], has commenced practice at Tomboyach, Boat of Garten, Inverness-shire (Boat of Garten 243), where he will be pleased to receive trade catalogues etc.

Mr. F. H. Kerr [*A*] would be pleased to receive trade catalogues etc. at 3 Malew Street, The Square, Castletown, Isle of Man (Castletown 3101).

Mr. Julian Keyes [*A*] has commenced practice at 10 Manchester Square, London, W.1, and will be pleased to receive trade catalogues etc. His telephone number is WELbeck 6276.

The partnership, formerly known as **Owen Eaton and Merrifield,** United Buildings, Main Street, Port Elizabeth, S.A., was dissolved on 31 March 1949. **Mr. Charles H. N. Merrifield** [*A*] is now in practice at Mosenthal's Building, Port Elizabeth.

Mr. V. H. S. Prichard [*A*] has entered into partnership with **Captain Jos. P. Dixon.** They will practise under the style of **Dixon and Prichard** at Central Chambers, 25 St. Peter Street, Tiverton, Devon.

Mr. J. K. G. Sargeant, M.B.E. [*A*], is practising with **Mr. W. J. Biggs** [Student] under the name of **E. A. Stone, Toms and Partners** at Park West Place, Marble Arch, London, W.2, and 20 Berkeley Street, London, W.1. Mr. W. J. Biggs recently acquired the practice of Mr. E. A. Stone, F.R.I.C.S.

Richard Sheppard and J. Shufflebotham [*F*/*A*], 21 Coram Street, London, W.C.1, have taken into partnership **Mr. Geoffrey Robson** [*A*], and will continue to practise at the same address under the style of **Richard Sheppard and Partners.**

CHANGES OF ADDRESS

Mr. J. E. K. Harrison [*F*] has moved to new offices at 3 Raymond Buildings, Gray's Inn, London, W.C.1. (HOLborn 5394.)

William and Norman Hunt [*L*/*A*] have moved their offices from 5 Colne Road, London, N.21, to 1 Fernleigh Road, London, N.21. (PALmers Green 8743.)

Mr. W. J. Lewis [*F*], **Mr. H. R. Lewis** [*A*] and **Mr. J. V. Lewis** [*A*], who practise as **W. J. Lewis and Sons,** have removed from Cranbrook House, Cranbrook Road, Ilford, to 68 Cranbrook Road, Ilford. The telephone number, Ilford 1799, remains unchanged.

Mr. Clive Pascall [*A*] has removed to 124 Victoria Street, London, S.W.1 (VIC 0994), where he will be pleased to receive trade catalogues etc.

Mr. G. Norman Middleton [*A*] has moved to 29 Valley Road, St. Paul's Cray, Orpington, Kent, and will be pleased to receive trade catalogues etc.

Mr. Herbert J. Stribling [*F*] has removed his office from Highfield, Bath Road, Slough, to Nascott, Bath Road, Slough (Slough 22071). Mr. Stribling will be pleased to receive trade catalogues etc.

PRACTICES AND PARTNERSHIPS WANTED AND AVAILABLE

Associate requires partnership or progressive senior appointment leading to partnership. Seventeen years experience in industrial and housing work. Keen, industrious and possibility of obtaining new work. Southern England preferred. Box 46, c/o Secretary, R.I.B.A.

Associate, with own small practice, wishes to meet another member with view to forming partnership and starting up new office in West Sussex. Box 43, c/o Secretary, R.I.B.A.

Associate (37), with small connection in the area, seeks partnership (or an appointment with view to partnership) in Southern England. Experienced administrator. Box 45, c/o Secretary, R.I.B.A.

Member, with extensive experience private practice, several successful competition entries, wishes to join firm of architects giving scope to high qualifications in contemporary planning and architectural design, including large-scale schemes; partnership or appointment with view to partnership. Box 47, c/o Secretary, R.I.B.A.

ACCOMMODATION

Member practising in Kensington area willing to share large studio with another member. £150 p.a., including heat, light and telephone. Draughting and typing assistance available if required. Box 44, c/o Secretary, R.I.B.A.

WANTED AND FOR SALE

The Hon. Librarian of the Exeter Branch, Devon and Cornwall Architectural Society, would be pleased to make an offer for a sound secondhand copy of Volume XIV of the Wren Society. Address: 19 West Avenue, Exeter.